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

SCHEDULE 13D

Under the Securities Exchange Act of 1934

Perspective Therapeutics, Inc.

(Name of Issuer)

Common Stock, par value \$0.001
(Title of Class of Securities)

46489V104
(CUSIP Number)

Lantheus Holdings, Inc.
201 Burlington Road, South Building
Bedford, MA 01730

Attention: Daniel Niedzwiecki
(978) 671-8001

(Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

January 22, 2024
(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of § 240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box .

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See § 240.13d-7(b) for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

SCHEDULE 13D

CUSIP No. 46489V104

1	NAME OF REPORTING PERSONS Lantheus Holdings, Inc.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (See Instructions) WC	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 56,342,355(1)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 56,342,355(1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 56,342,355	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 10.74% (2)	
14	TYPE OF REPORTING PERSON (See Instructions) CO	

- (1) Represents shares directly held by Lantheus Alpha Therapy, LLC ("Lantheus Alpha"), a wholly owned direct subsidiary of Lantheus Holdings, Inc. ("Lantheus Holdings"). Lantheus Holdings and Lantheus Alpha may each be deemed to have shared voting and dispositive power over all of the shares.
- (2) Based upon the sum of (i) 281,852,702 shares of the Issuer's Common Stock issued and outstanding as of January 8, 2024, as represented by the Issuer to Lantheus Alpha in the Investment Agreement, dated as of January 8, 2024 (the "Investment Agreement"), by and between Lantheus Alpha and the Issuer, (ii) an additional 56,342,355 shares of the Issuer's Common Stock outstanding following the closing under the Investment Agreement, (iii) an additional 156,399,542 shares of the Issuer's Common Stock issued at the closing of the public offering described in the Issuer's Current Report Form 8-K dated January 22, 2024 (the "Public Offering") and (iv) an additional 30,086,944 shares of Common Stock underlying the pre-funded warrants issued at the closing of the Public Offering.

1	NAME OF REPORTING PERSONS Lantheus Alpha Therapy, LLC	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (See Instructions) AF	
5	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) or 2(e) <input type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 56,342,355(1)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 56,342,355(1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 56,342,355	
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 10.74% (2)	
14	TYPE OF REPORTING PERSON (See Instructions) CO	

- (1) Represents shares directly held by Lantheus Alpha, a wholly owned direct subsidiary of Lantheus Holdings. Lantheus Holdings and Lantheus Alpha may each be deemed to have shared voting and dispositive power over all of the shares.
- (2) Based upon the sum of (i) 281,852,702 shares of the Issuer's Common Stock issued and outstanding as of January 8, 2024, as represented by the Issuer to Lantheus Alpha in the Investment Agreement, (ii) an additional 56,342,355 shares of the Issuer's Common Stock outstanding following the closing under the Investment Agreement, (iii) an additional 156,399,542 shares of the Issuer's Common Stock issued at the closing of the Public Offering and (iv) an additional 30,086,944 shares of Common Stock underlying the pre-funded warrants issued at the closing of the Public Offering.

Item 1. Security and Issuer

This Schedule 13D (this “Statement”) relates to the common stock, par value \$0.001 per share (the “Common Stock”), of Perspective Therapeutics, Inc., a Delaware corporation (the “Issuer”). The Issuer’s principal executive offices are located at 2401 Elliott Avenue, Suite 320, Seattle, Washington 98121.

Item 2. Identity and Background

(a)-(c) and (f):

The names of the persons filing this Statement are Lantheus Holdings, Inc., a Delaware corporation (“Lantheus Holdings”), and Lantheus Alpha Therapy, LLC, a Delaware limited liability company (“Lantheus Alpha”), and together with Lantheus Holdings, the “Reporting Persons”). The principal business of Lantheus Holdings is the development, manufacturing, and commercialization of innovative diagnostic medical imaging diagnostics (across a range of imaging modalities, including echocardiography and nuclear imaging), radiotherapeutics and artificial intelligence solutions. The principal business of Lantheus Alpha is to enter into the transactions contemplated by the Investment Agreement.

The address of the principal business and the principal office of each of the Reporting Persons is 201 Burlington Road, South Building, Bedford, MA 01730.

The name, business address, present principal occupation or employment and citizenship of each director and executive officer of the Reporting Persons are set forth on Schedule A to this Statement, and are incorporated herein by reference.

The Reporting Persons have entered into a Joint Filing Agreement, a copy of which is filed with this Statement as Exhibit 99.7, pursuant to which the Reporting Persons have agreed to file this Statement jointly in accordance with the provisions of Rule 13d-1(k) of the Act.

(d) and (e):

During the last five years, none of the Reporting Persons nor, to the knowledge of each of the Reporting Persons, any of the persons named on Schedule A attached hereto, has been (i) convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors) or (ii) a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree, or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

Item 3. Source and Amount of Funds or Other Consideration

Item 6 of this Statement is incorporated herein by reference. Capitalized terms used but not defined in this Item 3 or the preceding Items of this Statement are defined in Item 6.

On January 22, 2024, Lantheus Alpha purchased 56,342,355 shares of the Issuer’s Common Stock at a purchase price per share of \$0.37 in a private placement transaction (the “Purchase”). The total consideration for the Purchase was approximately \$20.8 million in cash.

On January 8, 2024, the Issuer and Lantheus Alpha entered into an Option Agreement attached hereto as Exhibit 99.3. Pursuant to the Option Agreement, as partial consideration for the rights afforded to Lantheus Alpha thereunder, Lantheus Alpha agreed to pay a one-time payment of \$28.0 million, subject to certain withholding provisions related to the closing contemplated by the APA (as defined below). As further consideration for the rights granted to Lantheus Alpha under the Option Agreement, the Issuer and Lantheus Alpha also entered into the Investment Agreement.

The source of funds for the transactions described in this Item 3 was general working capital and cash on hand of the Reporting Persons.

Item 4. Purpose of Transaction

(a)-(j)

Item 6 of this Statement is incorporated herein by reference. Capitalized terms used but not defined in this Item 4 or the preceding Items of this Statement are defined in Item 6.

As discussed in more detail in Item 6 of this Statement, the Option Agreement affords Lantheus Alpha certain Options with respect to certain of the Issuer's product candidates, as well as certain Change of Control Rights. In addition, the Option Agreement affords Lantheus Alpha certain Monitoring Rights and the Investment Agreement affords Lantheus the Investment Agreement Rights, pursuant to which the Reporting Persons can and intend to monitor the desirability of exercising, and potentially exercise, the Options, the Participation Rights and/or the Change of Control Rights.

At present, the Reporting Persons intend to monitor the Issuer's development of [²¹²Pb]VMT- α -NET and the product candidates subject to the Program Pre-Clinical Option and the Program License Option, each subject to the applicable provisions of the Option Agreement. The Reporting Persons are and intend to continue monitoring the advisability of (i) negotiating or exercising the Options, (ii) proposing, seeking and consummating an Acquisition Transaction with the Issuer and/or (iii) exercising the Participation Rights. In connection with that, the Reporting Persons may, at any time, exercise (i) their Options or (ii) their Change of Control Rights, including making an Acquisition Proposal.

The acquisition by the Reporting Persons of the Issuer's securities as described herein was effected pursuant to the Investment Agreement. The Reporting Persons acquired their securities for investment purposes and otherwise in furtherance of the purpose of the Option Agreement, including the Options described above.

Subject to the standstill restrictions in the Investment Agreement, the Reporting Persons intend to continue to review their investment in the Issuer on an ongoing basis and, depending on various factors, including, without limitation, the Issuer's business, results of operations and financial position, the trading price of the Common Stock, conditions in the capital markets and general economic, political and industry conditions, the Reporting Persons may, in the future, take such actions with respect to their shares of Common Stock as they deem appropriate, including, without limitation: purchasing additional shares of Common Stock (which may be in connection with an Acquisition Transaction or through the exercise of Participation Rights); selling shares of Common Stock (including in registered offerings pursuant to the Registration Rights Agreement); or taking any other action with respect to the Issuer or any of its securities in any manner permitted by law or with respect to any and all matters referred to in subparagraphs (a) through (j) of Item 4 of Schedule 13D. Further, the Reporting Persons have the right to designate one person to attend all meetings of the board of directors of the Issuer in a nonvoting observer capacity, and, as such, may have influence over the corporate activities of the Issuer, including activities which may relate to items described in subparagraphs (a) through (j) of Item 4 of Schedule 13D.

Except as described in this Statement, each of the Reporting Persons does not have any present plans or proposals that relate to or would result in any of the actions described above and in subparagraphs (a) through (j) of Item 4 of Schedule 13D. However, subject to compliance with the Agreements describes above, the Reporting Persons, at any time and from time to time, may review, reconsider and change their position or their purpose or develop such plans.

Item 5. Interest in Securities of the Issuer

(a)-(b)

Based upon the sum of (i) 281,852,702 shares of the Issuer's Common Stock issued and outstanding as of January 8, 2024, as represented by the Issuer to Lantheus Alpha in the Investment Agreement, (ii) an additional 56,342,355 shares of the Issuer's Common Stock outstanding following the closing under the Investment Agreement, (iii) an additional 156,399,542 shares of the Issuer's Common Stock issued at the closing of the Public Offering and (iv) an additional 30,086,944 shares of Common Stock underlying the pre-funded warrants issued at the closing of the Public Offering.

Based on the foregoing, the aggregate number and percentage of shares of Common Stock beneficially owned by the Reporting Persons is 56,342,355, constituting 10.74% of the shares outstanding as of January 22, 2024.

Number of shares of Common Stock as to which the Reporting Persons have:

	<u>Common Stock Held</u>
Voting Authority	
Sole:	0
Shared:	56,342,355
Total:	56,342,355

	<u>Common Stock Held</u>
Dispositive Authority	
Sole:	0
Shared:	56,342,355
Total:	56,342,355

To the best knowledge of each of the Reporting Persons, none of the individuals listed on Schedule A hereto beneficially owns any of the Issuer's Common Stock.

(c) Except as reported in this Statement, neither the Reporting Persons nor, to the best knowledge of each of the Reporting Persons, any of the individuals listed on Schedule A hereto have effected any transactions in the Common Stock during the past sixty (60) days.

(d) Except with reference to the Agreements and the transactions contemplated by those Agreements, and except as set forth in this Statement, none of the Reporting Persons nor, to the knowledge of each of the Reporting Persons, any of the persons set forth on Schedule A hereto has the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the securities of Issuer reported herein.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationship with Respect to Securities of the Issuer

Investment Agreement

On January 8, 2024, the Issuer entered into that certain Investment Agreement (the "Investment Agreement") with Lantheus Alpha, pursuant to which the Issuer agreed to sell and issue to Lantheus Alpha in a private placement transaction (the "Private Placement") certain shares (the "Shares") of the Issuer's Common Stock, subject to certain closing conditions, including the Issuer raising at least \$50.0 million of gross proceeds (excluding Lantheus Alpha's investment) in a qualifying third party financing transaction. The closing of the Purchase occurred on January 22, 2024 (the "Closing") concurrently with the closing of the Issuer's registered Public Offering of Common Stock and pre-funded warrants raising approximately \$69.0 million of gross proceeds, before underwriting discounts and commissions and estimated expenses of such offering.

Pursuant to the Investment Agreement, at Closing the Issuer entered into the Registration Rights Agreement with Lantheus, as described below. The Investment Agreement also contains agreements of the Issuer and Lantheus Alpha whereby Lantheus Alpha is provided the right to appoint a non-voting board observer and certain rights to receive non-public information regarding the Issuer for a specified period. The Investment Agreement also contains certain standstill provisions prohibiting Lantheus Alpha and certain affiliated entities from taking certain actions with respect to the Issuer and its securities for a specified period of time, subject to certain exceptions.

The Investment Agreement also provides Lantheus Alpha with certain pro rata participation rights (the "Participation Rights") to maintain its ownership position in the Issuer in the event that the Issuer makes any public or non-public offering of any equity or voting interests in the Issuer or any securities that are convertible or exchangeable into (or exercisable for) equity or voting interests in the Issuer, subject to certain exceptions, in each case through Lantheus Alpha participating in the relevant offering on the same economic terms as the other participants in such offering.

The board observer rights, information rights and Participation Rights described in this sub-section are collectively referred to in this Statement as the “Investment Agreement Rights”.

The foregoing description of the Investment Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of such agreement, which is attached as Exhibit 99.1 hereto and incorporated herein by reference.

Asset Purchase Agreement

On January 8, 2024, the Issuer entered into that certain Asset Purchase Agreement (the “APA”) with Progenics Pharmaceuticals, Inc., a Delaware corporation (“Progenics”) and affiliate of Lantheus Holdings, and Lantheus Medical Imaging, Inc., pursuant to which the Issuer will acquire certain assets and the associated lease of Progenics’ radiopharmaceutical manufacturing facility in Somerset, New Jersey for a purchase price of \$8.0 million in cash. The closing of the transactions pursuant to the APA is subject to customary closing conditions, including regulatory approval.

The foregoing description of the APA does not purport to be complete and is qualified in its entirety by reference to the full text of such agreement, which is attached as Exhibit 99.2 hereto and incorporated herein by reference.

Option Agreement

On January 8, 2024, the Issuer entered into that certain Option Agreement (the “Option Agreement” and together with the Investment Agreement and the APA, the “Agreements”) with Lantheus Alpha whereby Lantheus Alpha was granted an exclusive option to negotiate an exclusive, worldwide, royalty- and milestone-bearing right and license to [²¹²Pb]VMT- α -NET, the Issuer’s clinical stage alpha therapy developed for the treatment of neuroendocrine tumors (the “VMT Option”), and a right to co-fund the investigational new drug application (“IND”)-enabling studies for early-stage therapeutic candidates targeting prostate-specific membrane antigen and gastrin releasing peptide receptor (the “Program Preclinical Co-Funding Option”) and, prior to IND filing, a right to negotiate for an exclusive license to such candidates (the “Program License Option”, together with the Program Pre-Clinical Co-Funding Option and the VMT Option, the “Options”). In consideration of the rights granted by the Issuer to Lantheus Alpha pursuant to the Option Agreement, Lantheus Alpha paid to the Issuer a one-time payment of \$28.0 million, subject to certain withholding provisions related to the closing contemplated by the APA.

Option Agreement – Monitoring Rights

During specified periods, the Issuer has agreed to (i) (a) deliver to Lantheus Alpha certain written reports containing summaries of a development plan and budget for the [²¹²Pb]VMT- α -NET product, including all research, development, manufacturing and commercialization activities related to such product, as well as a summary of interim data or results from the Phase I/IIa Study (as defined in the Option Agreement) and (b) deliver to Lantheus Alpha certain written reports summarizing the Issuer’s progress with respect to the development plan and budget for each Program Preclinical Co-Funding Option exercised by Lantheus Alpha, which report shall include all material preclinical development activities conducted with respect to the Lead Candidate (as defined in the Option Agreement) under such program, as well as a summary of any interim data generated in the performance of such activities and the results thereof, and including a high-level description of the preclinical development activities anticipated to be conducted in the subsequent calendar quarter; and (ii) promptly notify Lantheus Alpha of any meeting with the FDA with respect to the [²¹²Pb]VMT- α -NET product or any Lead Candidate. In addition, during specified periods, the Issuer has agreed to meet with Lantheus Alpha and provide Lantheus Alpha with additional information, in each case as reasonably requested by Lantheus Alpha.

Finally, the Issuer has agreed to use commercially reasonable efforts to complete all activities set forth in a development plan relating to the [²¹²Pb]VMT- α -NET product.

The rights described in this sub-section are collectively referred to in this Statement as the “Monitoring Rights.”

Option Agreement—Change of Control Rights

Under the terms of the Option Agreement, for the twelve-month period beginning on January 8, 2024 (the “Change of Control Rights Period”), the Issuer has agreed not to (i) solicit or encourage any inquiries, offers or proposals for, or that could reasonably be expected to lead to, a proposal, offer or indication of interest relating to any Acquisition Transaction (an “Acquisition Proposal”) from a third party (provided, that ordinary course discussions conducted in good faith with Third Parties regarding Perspective’s scientific programs and the progress of those programs, a Bona Fide Financing (as defined below), potential collaborations and partnerships and other similar matters that are typical of a company like Perspective and do not involve an Acquisition Proposal shall not by themselves constitute solicitation or encouragement), or (ii) otherwise initiate a process that could reasonably be expected to result in a potential Acquisition Proposal from a third party, in each case, without first notifying Lantheus Alpha (a “ROFO Notice”) and offering Lantheus Alpha the opportunity to submit an offer or proposal to the Issuer for an Acquisition Transaction (as defined below). If Lantheus Alpha fails or declines to submit any such offer within a specified period after the receipt of such ROFO Notice, the Issuer will have the ability to solicit third party Acquisition Proposals. If Lantheus Alpha delivers an Acquisition Proposal to the Issuer, the Issuer and Lantheus Alpha will attempt to negotiate reasonably and in good faith (in the case of the Issuer, on an exclusive basis) the potential terms and conditions for such potential transaction that would result in an Acquisition Transaction for a specified period, which period may be shortened or extended by mutual agreement. Lantheus Alpha can terminate such negotiations at any time in its sole discretion.

In addition, if, during the Change of Control Rights Period, at any time prior to the delivery of a ROFO Notice, the Issuer receives an Acquisition Proposal, the Issuer must promptly notify Lantheus Alpha of the offer, the identity of the third party making such offer and the material terms thereof. If Lantheus Alpha fails or declines to submit a competing offer within a specified period after the receipt of such notice, the Issuer will have the ability to pursue such third-party offer. However, if, during such pursuit, the terms of such third-party offer materially change, the Issuer must notify Lantheus Alpha of such materially changed third-party offer and allow Lantheus Alpha an additional specified period to consider such materially changed third-party offer.

During the Change of Control Rights Period, the Issuer may not enter into (i) any letter of intent, memorandum of understanding, agreement in principle, agreement, contract, commitment (whether or not binding), or other similar agreements with respect to an Acquisition Proposal (subject to certain exceptions) or (ii) any agreement, contract or commitment that could impede the ability of Lantheus Alpha to effect an Acquisition Transaction (a “Competing Instrument”), unless the Issuer promptly notifies Lantheus Alpha within a specified period before entering into a Competing Instrument (which notice must include the identity of the counterparty to such Competing Instrument and the material terms thereof).

“Acquisition Transaction” is defined in the Option Agreement as a transaction or series of related transactions, other than a Bona Fide Financing, involving, directly or indirectly: (a) any acquisition (by asset purchase, stock purchase, merger, license or otherwise) by any Person (as defined therein) or group of any business or assets of the Issuer or any of its subsidiaries (including capital stock of or ownership interest in any subsidiary) that accounted for or generated a certain percentage of the Issuer’s and its subsidiaries’ consolidated assets (by fair market value) or net revenue for the latest preceding specified period for which consolidated financial statements are available, (b) any acquisition of beneficial ownership by any Person or group a certain percentage of the outstanding shares of the Issuer’s Common Stock and any other securities entitled to vote on the election of directors or any tender or exchange offer that if consummated would result in any Person or group beneficially owning a certain percentage of the outstanding shares of the Issuer’s Common Stock and any other securities entitled to vote on the election of directors or (c) any merger, consolidation, share exchange, business combination, recapitalization, liquidation, dissolution or similar transaction involving the Issuer or any of its subsidiaries which would result in any Person or group acquiring beneficial ownership of a certain percentage of the outstanding common stock and other securities entitled to vote on the election of directors of the entity surviving such transaction.

“Bona Fide Financing” means a public or private offering of its equity securities or an “at the market offering” as defined in Rule 415(a)(4) promulgated under the Securities Act of 1933 in which no Person or group acquires equity securities that results in such Person beneficially owning 20% or more of the outstanding capital stock or voting power of Perspective following such transaction.

The rights described in this sub-section are collectively referred to in this Statement as the “Change of Control Rights.”

The foregoing description of the Option Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of such agreement, which is attached as Exhibit 99.3 hereto and incorporated herein by reference.

Registration Rights Agreement

On January 22, 2024, the Issuer and Lantheus Alpha entered into a registration rights agreement (the “Registration Rights Agreement”) in accordance with the requirements of the Investment Agreement, pursuant to which the Issuer agreed to register the resale of the Shares. Under the Registration Rights Agreement, the Issuer has agreed to file a registration statement covering the resale of the Shares no later than the 60th calendar day following the Closing (the “Filing Deadline”). The Issuer has agreed to use reasonable best efforts to cause such registration statement to become effective as promptly as practicable after the filing thereof but in any event on or prior to the Effectiveness Deadline (as defined in the Registration Rights Agreement), and to keep such registration statement continuously effective until the date the Shares covered by such registration statement have been sold or may be resold pursuant to Rule 144 without restriction. The Issuer has also agreed, among other things, to pay all reasonable fees and expenses (excluding any underwriters’ discounts and commissions and all fees and expenses of legal counsel, accountants and other advisors for Lantheus Alpha except as specifically provided in the Registration Rights Agreement) incident to the performance of or compliance with the Registration Rights Agreement by the Issuer.

The Issuer and Lantheus Alpha granted each other customary indemnification rights in connection with the registration statement. The Issuer made additional customary covenants, including with respect cooperating in underwritten offerings of the Shares and taking steps to allow the Shares to be resold pursuant to Rule 144 under the Securities Act of 1933.

The foregoing description of the Registration Rights Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of such agreement, which is attached as Exhibit 99.4 hereto and incorporated herein by reference.

Except as disclosed in Items 3 and 4 of this Statement, there are no contracts, arrangements, understandings or relationships (legal or otherwise) to which the Reporting Persons are a party with respect to the securities of the Issuer.

Item 7. Materials to Be Filed as Exhibits

- Exhibit 99.1 Investment Agreement between the Issuer and Lantheus Alpha Therapy, LLC, dated January 8, 2024 (incorporated by reference to Exhibit 10.1 of the Issuer’s Current Report on Form 8-K/A filed with the Securities and Exchange Commission on January 17, 2024).
- Exhibit 99.2 Asset Purchase Agreement among the Issuer, Progenics Pharmaceuticals, Inc. and Lantheus Medical Imaging, Inc., dated January 8, 2024 (incorporated by reference to Exhibit 10.2 of the Issuer’s Current Report on Form 8-K/A filed with the Securities and Exchange Commission on January 17, 2024).
- Exhibit 99.3 Option Agreement between the Issuer and Lantheus Alpha Therapy, LLC, dated January 8, 2024. (incorporated by reference to Exhibit 10.3 of the Issuer’s Current Report on Form 8-K/A filed with the Securities and Exchange Commission on January 17, 2024).
- Exhibit 99.4 [Registration Rights Agreement between the Issuer and Lantheus Alpha Therapy, LLC, dated January 22, 2024.](#)
- Exhibit 99.5 [Power of Attorney \(Lantheus Holdings, Inc.\)](#)
- Exhibit 99.6 [Power of Attorney \(Lantheus Alpha Therapy, LLC\)](#)
- Exhibit 99.7 [Joint Filing Agreement as required by Rule 13d-1\(k\)\(1\) under the Securities Exchange Act of 1934, as amended.](#)

SIGNATURE

After reasonable inquiry and to the best of each of the undersigned's knowledge and belief, each of the undersigned certifies that the information set forth in this statement is true, complete and correct.

Date: February 1, 2024

LANTHEUS HOLDINGS, INC.

By: /s/ Mary Anne Heino

Name: Mary Anne Heino

Title: Chief Executive Officer

LANTHEUS ALPHA THERAPY, LLC

By: /s/ Mary Anne Heino

Name: Mary Anne Heino

Title: Chief Executive Officer

SCHEDULE A**DIRECTORS AND EXECUTIVE OFFICERS OF THE REPORTING PERSON**

The name, present principal occupation or employment and citizenship of each director and executive officer of Lantheus Holdings, Inc. are set forth below. The business address for each director and executive officer is c/o Lantheus Holdings, Inc., 201 Burlington Road, South Building, Bedford, MA 01730.

Board of Directors of Lantheus Holdings, Inc.

Name	Present Principal Occupation or Employment	Citizenship
Brian Markison (Non-Executive Chairman of the Board of Directors)	Chief Executive Officer and Director of RVL Pharmaceuticals plc (formerly Osmotica PharmaceutircaI plc)	United States
Mary Anne Heino	President and Chief Executive Officer of Lantheus Holdings, Inc.	United States
Minnie Baylor-Henry	President of B-Henry & Associates	United States
Samuel Leno	Former Executive Vice President and Chief Operations Officer, Boston Scientific	United States
Julie McHugh	Former Chief Operating Officer, Endo Health Solutions, Inc.	United States
Gary J. Pruden	Former Executive Vice President, Worldwide Chairman, Medical Devices, Johnson and Johnson	United States
Dr. Gérard Ber	Co-Founder and former Chief Operating Officer of Advanced Accelerator Applications S.A.	France
Heinz Mäusli	Former Chief Financial Officer of Advanced Accelerator Applications S.A.	Switzerland
Dr. James H. Thrall	Distinguished Juan M. Taveras Professorship of Radiology, Harvard Medical School	United States

Executive Officers of Lantheus Holdings, Inc.

Name	Present Principal Occupation or Employment	Citizenship
Mary Anne Heino	Chief Executive Officer	United States
Robert J. Marshall, Jr.	Chief Financial Officer and Treasurer	United States
Paul M. Blanchfield	President	United States
Dr. Jean-Claude Provost	Chief Medical Officer	France
Daniel M. Niedzwiecki	Chief Administrative Officer, General Counsel and Corporate Secretary	United States
Etienne Montagut	Chief Business Officer	France

The name, present principal occupation or employment and citizenship of executive officer of Lantheus Alpha Therapy, LLC are set forth below. The business address for each executive officer is c/o Lantheus Alpha Therapy, LLC, 201 Burlington Road, South Building, Bedford, MA 01730.

Executive Officers of Lantheus Holdings, Inc.

<u>Name</u>	<u>Present Principal Occupation or Employment</u>	<u>Citizenship</u>
Mary Anne Heino	Chief Executive Officer	United States

REGISTRATION RIGHTS AGREEMENT

This **Registration Rights Agreement** (this “Agreement”) is made and entered into as of January 22, 2024, between **Perspective Therapeutics, Inc.**, a Delaware corporation (the “Company”), and **Lantheus Alpha Therapy, LLC**, a Delaware limited liability company (the “Investor”).

RECITALS

This Agreement is made pursuant to the Investment Agreement, dated as of January 8, 2024, between the Company and the Investor (as amended, amended and restated or otherwise modified from time to time, the “Investment Agreement”), pursuant to which the Company is selling to the Investor, and the Investor is purchasing from the Company, in each case on the Closing Date (as defined in the Investment Agreement), an aggregate of 56,342,355 shares (the “Shares”) of common stock, \$0.001 par value of the Company (the “Common Stock”).

AGREEMENT

The Company and the Investor hereby agree as follows:

Section 1. Definitions. Capitalized terms used and not otherwise defined herein that are defined in the Investment Agreement shall have the meanings given such terms in the Investment Agreement. As used in this Agreement, the following terms shall have the following meanings:

“Advice” has the meaning set forth in Section 6(c).

“Effectiveness Date” means, with respect to the Initial Registration Statement required to be filed hereunder, the 30th calendar day following the Filing Date (or, in the event of a “full review” by the Commission, the 90th calendar day following the Filing Date) and with respect to any additional Registration Statements which may be required pursuant to Section 2(c) or Section 3(c), the 30th calendar day following the date on which an additional Registration Statement is required to be filed hereunder (or, in the event of a “full review” by the Commission, the 90th calendar day following the date such additional Registration Statement is required to be filed hereunder); provided, however, that in the event the Company is notified by the Commission that one or more of the above Registration Statements will not be reviewed or is no longer subject to further review and comments, the Effectiveness Date as to such Registration Statement shall be the fifth Trading Day following the date on which the Company is so notified if such date precedes the dates otherwise required above, provided, further, if such Effectiveness Date falls on a day that is not a Trading Day, then the Effectiveness Date shall be the next succeeding Trading Day.

“Effectiveness Period” has the meaning set forth in Section 2(a).

“Event” has the meaning set forth in Section 2(d).

“Event Date” has the meaning set forth in Section 2(d).

“Filing Date” means (a) with respect to the Initial Registration Statement required hereunder, the date that is no later than the 60th calendar day following the Closing Date, and (b) with respect to any additional Registration Statements which may be required pursuant to Section 2(c) or Section 3(c), the earliest practical date on which the Company is permitted by SEC Guidance to file such additional Registration Statement related to the Registrable Securities.

“Holder” or “Holders” means the holder or holders, as the case may be, from time to time of Registrable Securities.

“Indemnified Party” has the meaning set forth in Section 5(c).

“Indemnifying Party” has the meaning set forth in Section 5(c).

“Initial Registration Statement” means the initial Registration Statement filed to register the resale of the Registrable Securities as would permit the sale and distribution of such Registrable Securities from time to time in the manner reasonably requested by a Holder

as provided in and pursuant to this Agreement.

“Losses” has the meaning set forth in Section 5(a).

“Person” means an individual, corporation, partnership, limited liability company, trust, business trust, association, joint stock company, joint venture, sole proprietorship, unincorporated organization, governmental authority or any other form of entity not specifically listed herein.

“Plan of Distribution” has the meaning set forth in Section 2(a).

“Prospectus” means the prospectus included in a Registration Statement (including, without limitation, a prospectus that includes any information previously omitted from a prospectus filed as part of an effective registration statement in reliance upon Rule 430A promulgated by the Commission pursuant to the Securities Act), as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Securities covered by a Registration Statement, and all other amendments and supplements to the Prospectus, including post-effective amendments, and all material incorporated by reference or deemed to be incorporated by reference in such Prospectus.

“Registrable Securities” means, as of any date of determination, (a) Shares issued to the Investor pursuant to the Investment Agreement at the Closing Date, and (b) any other securities issued or then issuable upon any stock split, dividend or other distribution, recapitalization, merger, exchange, replacement or similar event with respect to the foregoing; provided, however, that any such Registrable Securities shall cease to be Registrable Securities (and the Company shall not be required to maintain the effectiveness of any, or file another, Registration Statement hereunder with respect thereto) for so long as (x) a Registration Statement with respect to the sale of such Registrable Securities is declared effective by the Commission under the Securities Act and such Registrable Securities have been disposed of by the Holder in accordance with such effective Registration Statement, (y) such Registrable Securities have been previously sold in accordance with Rule 144, or (z) such securities become eligible for resale without volume or manner-of-sale restrictions and without the requirement for the Company to be in compliance with the current

public information requirement pursuant to Rule 144 as set forth in a written opinion letter to such effect, addressed, delivered and acceptable to the Transfer Agent and the affected Holders (assuming that such securities and any securities issuable upon exercise, conversion or exchange of which, or as a dividend upon which, such securities were issued or are issuable, were at no time held by any Affiliate of the Company), as reasonably determined by the Company, upon the advice of counsel to the Company.

“Registration Statement” means any registration statement required to be filed hereunder pursuant to Section 2(a) and any additional registration statements contemplated by Section 2(c) or Section 3(c), including (in each case) the Prospectus, amendments and supplements to any such registration statement or Prospectus, including pre- and post-effective amendments, all exhibits thereto, and all material incorporated by reference or deemed to be incorporated by reference in any such registration statement.

“Rule 415” means Rule 415 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Rule 424” means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“Selling Stockholder Questionnaire” has the meaning set forth in Section 3(a).

“SEC Guidance” means (i) any publicly available written or oral guidance of the Commission staff, or any comments, requirements or requests of the Commission staff and (ii) the Securities Act.

“Trading Day” means any day on which the Trading Market is open for trading.

“Trading Market” means the principal national securities exchange on which Registrable Securities are listed.

Section 2. Demand Registration.

(a) On or prior to each Filing Date, the Company shall prepare and file with the Commission a Registration Statement covering the resale of all of the Registrable Securities that are not then registered on an effective Registration Statement for an offering to be made on a continuous basis pursuant to Rule 415. Each Registration Statement filed hereunder shall be on Form S-3 (except if the Company is not then eligible to register for resale the Registrable Securities on Form S-3, subject to the provisions of Section 2(e)) and shall contain (unless otherwise directed by at least 50% in interest of the Holders or to make any disclosure contained therein not misleading) substantially the “Plan of Distribution” attached hereto as Annex A and substantially the “Selling Stockholder” section attached hereto as Annex B. Subject to the terms of this Agreement, the Company shall use its reasonable best efforts to cause a Registration Statement

filed under this Agreement (including, without limitation, under Section 3(c)) to be declared effective under the Securities Act as promptly as possible after the filing thereof, but in any event no later than the applicable Effectiveness Date, and shall use its reasonable best efforts to keep such Registration Statement continuously effective under the Securities Act until the date that all Registrable Securities covered by such Registration Statement (i) have been sold, thereunder or pursuant to Rule 144, or (ii) may be sold without volume or manner-of-sale restrictions pursuant to Rule 144 and without the requirement for the Company to be in compliance with the current public information requirement under Rule 144, as determined by the counsel to the Company pursuant to a written opinion letter to such effect, addressed and acceptable to the Transfer Agent and the affected Holders (the “Effectiveness Period”). The Company shall notify the Holders via e-mail of the effectiveness of a Registration Statement on the same Trading Day that the Company telephonically confirms effectiveness with the Commission, which shall be the date requested for effectiveness of such Registration Statement. The Company shall, by 9:30 a.m. (New York City time) on the Trading Day after the effective date of such Registration Statement, file a final Prospectus to be used in connection with the sale or other disposition of the securities covered thereby, and shall, if requested, provide the Holders with copies of such final Prospectus.

(b) Notwithstanding the registration obligations set forth in Section 2(a), if the Commission informs the Company that all of the Registrable Securities cannot, as a result of the application of Rule 415, be registered for resale as a secondary offering on a single registration statement, the Company agrees to promptly inform each of the Holders thereof and use its reasonable best efforts to file an amendment or amendments to the Initial Registration Statement as required by the Commission, covering the maximum number of Registrable Securities permitted to be registered by the Commission, on Form S-3 or such other form available to register for resale the Registrable Securities as a secondary offering, subject to the provisions of Section 2(e); and subject to the provisions of Section 2(d) with respect to payment of liquidated damages with respect to filing on Form S-3 or other appropriate form; provided, however, that prior to filing such amendment, the Company shall be obligated to use diligent efforts to advocate with the Commission for the registration of all of the Registrable Securities in accordance with the SEC Guidance, including without limitation, Securities Act Rules Compliance and Disclosure Interpretation 612.09.

(c) Notwithstanding any other provision of this Agreement and subject to the payment of liquidated damages pursuant to Section 2(d), if the Commission or any SEC Guidance sets forth a limitation on the number of Registrable Securities permitted to be registered on a particular Registration Statement as a secondary offering (and notwithstanding that the Company used diligent efforts to advocate with the Commission to maximize the number of Registrable Securities to be registered), unless otherwise directed in writing by a Holder as to its Registrable Securities, the number of Registrable Securities to be registered on such Registration Statement will be reduced as follows:

(i) First, the Company shall reduce or eliminate any securities to be included other than Registrable Securities; and

(ii) Second, the Company shall reduce Registrable Securities represented by Shares (applied, in the case that some Shares may be registered, to the Holders on a *pro rata* basis based on the total number of unregistered Shares held by such Holders).

In the event of a reduction hereunder, the Company shall give the Holder at least five (5) Trading Days' prior written notice along with the calculations as to such Holder's allotment. In the event the Company amends the Initial Registration Statement in accordance with the foregoing, then the Company shall use its reasonable best efforts to file with the Commission, as promptly thereafter as allowed by Commission or SEC Guidance provided to the Company or to registrants of securities in general, one or more registration statements on Form S-3 or such other form available to register for resale those Registrable Securities that were not registered for resale on the Initial Registration Statement, as amended.

(d) If: (i) the Initial Registration Statement is not filed on or prior to its Filing Date (if the Company files the Initial Registration Statement without affording the Investor the opportunity to review and comment on the same as required by Section 3(a) herein, the Company shall be deemed to have not satisfied this clause as of the Filing Date), (ii) the Company fails to file with the Commission a request for acceleration of a Registration Statement in accordance with Rule 461 promulgated by the Commission pursuant to the Securities Act within five (5) Trading Days of the date that the Company is notified (orally or in writing, whichever is earlier) by the Commission that such Registration Statement will not be "reviewed" or will not be subject to further review, (iii) a Registration Statement registering for resale all of the Registrable Securities is not declared effective by the Commission by the Effectiveness Date of the Initial Registration Statement or (iv) after the effective date of a Registration Statement, such Registration Statement ceases for any reason to remain continuously effective as to all Registrable Securities included in such Registration Statement, or the Holders are otherwise not permitted to utilize the Prospectus therein to resell such Registrable Securities, for more than fifteen (15) consecutive calendar days or more than an aggregate of twenty (20) calendar days (which need not be consecutive calendar days) during any 12-month period (any such failure or breach being referred to as an "Event", and for purposes of clauses (i) and (iii), the date on which such Event occurs, and for purpose of clause (ii) the date on which such five (5) Trading Day period is exceeded, and for purpose of clause (iv) the date on which such fifteen (15) or twenty (20) calendar day period, as applicable, is exceeded being referred to as "Event Date"), then, in addition to any other rights the Holders may have hereunder or under applicable law, on each such Event Date and on each monthly anniversary of each such Event Date (if the applicable Event shall not have been cured by such date) until the applicable Event is cured, the Company shall pay to each Holder an amount in cash, as partial liquidated damages and not as a penalty, equal to the product of 1.0% multiplied by the aggregate Share Purchase Price paid by such Holder pursuant to the Investment Agreement for any Registrable Securities held by such Holder on the Event Date. The parties agree that the maximum aggregate liquidated damages payable to a Holder under this Agreement shall be 10.0% of the aggregate Share Purchase Price paid by such Holder pursuant to the Investment Agreement. If the Company fails to pay any partial liquidated damages pursuant to this Section in full within seven (7) Trading Days after the date payable, the Company will pay interest thereon at a rate of 10.0% per annum (or such lesser maximum amount that is permitted to be paid by applicable law) to the Holder, accruing daily from the date such partial liquidated damages are due until such amounts, plus all such interest thereon, are paid in full. The partial liquidated damages pursuant to the terms hereof shall apply on a daily pro rata basis for any portion of a month prior to the cure of an Event.

(e) If Form S-3 is not available for the registration of the resale of Registrable Securities hereunder, the Company shall (i) register the resale of the Registrable Securities on another appropriate form and (ii) undertake to register the Registrable Securities on Form S-3 as soon as such form is available, provided that the Company shall maintain the effectiveness of the Registration Statement then in effect until such time as a Registration Statement on Form S-3 covering the Registrable Securities has been declared effective by the Commission.

(f) Notwithstanding anything to the contrary contained in this Agreement, in no event shall the Company be permitted to name any Holder or affiliate of a Holder as any underwriter without the prior written consent of such Holder.

Section 3. Registration Procedures.

In connection with the Company's registration obligations hereunder, the Company shall:

(a) Not less than five (5) Trading Days prior to the filing of each Registration Statement and not less than one (1) Trading Day prior to the filing of any related Prospectus or any amendment or supplement thereto (including any document that would be incorporated or deemed to be incorporated therein by reference), the Company shall (i) furnish to the Investor copies of all such documents proposed to be filed, which documents (other than those incorporated or deemed to be incorporated by reference) will be subject to the review of the Investor, and (ii) cause its officers and directors, counsel and independent registered public accountants to respond to such inquiries of the Investor as shall be necessary, in the reasonable opinion of counsel to the Investor, to conduct a reasonable investigation within the meaning of the Securities Act. The Company shall not file a Registration Statement or any such Prospectus or any amendments or supplements thereto to which the Investor shall reasonably object in writing in good faith, provided that, the Company is notified of such objection in writing no later than five (5) Trading Days after the Investor has been so furnished copies of a Registration Statement or one (1) Trading Day after the Holders have been so furnished copies of any related Prospectus or amendments or supplements thereto. Each Holder agrees to furnish to the Company a completed questionnaire in the form attached to this Agreement as Annex C (a "Selling Stockholder Questionnaire") on a date that is the earlier of two (2) Trading Days prior to the Filing Date or by the end of the fourth (4th) Trading Day following the date on which such Holder receives draft materials in accordance with this Section.

(b) (i) Prepare and file with the Commission such amendments, including post-effective amendments, to a Registration Statement and the Prospectus used in connection therewith as may be necessary to keep a Registration Statement continuously effective as to the applicable Registrable Securities for the Effectiveness Period and prepare and file with the Commission such additional Registration Statements in order to register for resale under the Securities Act all of the Registrable Securities, (ii) cause the related Prospectus to be amended or supplemented by any required Prospectus supplement (subject to the terms of this Agreement), and, as so supplemented or amended, to be filed pursuant to Rule 424, (iii) respond as promptly as reasonably possible to any comments received from the Commission with respect to a Registration Statement or any amendment thereto and provide as promptly as reasonably possible to the Investor true and complete copies of all correspondence from and to the Commission relating to a Registration Statement (provided that, the Company shall excise any information contained therein which would constitute material non-public information regarding the Company or any of its Subsidiaries), and (iv) comply in all material respects with the applicable provisions of the

Securities Act and the Exchange Act with respect to the disposition of all Registrable Securities covered by a Registration Statement during the applicable period in accordance (subject to the terms of this Agreement) with the intended methods of disposition by the Holders thereof set forth in such Registration Statement as so amended or in such Prospectus as so supplemented.

(c) If during the Effectiveness Period, the number of Registrable Securities at any time exceeds 100% of the number of shares of Common Stock then registered in a Registration Statement, then the Company shall file as soon as reasonably practicable, but in any case prior to the applicable Filing Date, an additional Registration Statement covering the resale by the Holders of not less than the number of such Registrable Securities.

(d) Notify the Holders of Registrable Securities to be sold (which notice shall, pursuant to clauses (iii) through (vii) hereof, be accompanied by an instruction to suspend the use of the Prospectus until the requisite changes have been made) as promptly as reasonably possible (and, in the case of (i)(A) below, not less than one (1) Trading Day prior to such filing) and (if requested by any such Holder) confirm such notice in writing no later than one (1) Trading Day following the day (i)(A) when a Prospectus or any Prospectus supplement or post-effective amendment to a Registration Statement is proposed to be filed, (B) when the Commission notifies the Company whether there will be a "review" of such Registration Statement and whenever the Commission comments in writing on such Registration Statement, and (C) with respect to a Registration Statement or any post-effective amendment, when the same has become effective, (ii) of any request by the Commission or any other federal or state governmental authority for amendments or supplements to a Registration Statement or Prospectus or for additional information, (iii) of the issuance by the Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of a Registration Statement covering any or all of the Registrable Securities or the initiation of any Proceedings for that purpose, (iv) of the receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Registrable Securities for sale in any jurisdiction, or the initiation or threatening of any Proceeding for such purpose, (v) of the occurrence of any event or passage of time that makes the financial statements included in a Registration Statement ineligible for inclusion therein, (vi) of the occurrence of any event or passage of time that makes any statement made in a Registration Statement or Prospectus or any document incorporated or deemed to be incorporated therein by reference untrue in any material respect or that requires any revisions to a Registration Statement, Prospectus or other documents so that, in the case of a Registration Statement or the Prospectus, as the case may be, it will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, and (vii) of the occurrence or existence of any pending corporate development or negotiation or consummation of a transaction with respect to the Company that the Company believes may be material and that, in the determination of the Company, makes it not in the best interest of the Company to allow continued availability of a Registration Statement or Prospectus; provided, however, that in no event shall any such notice contain any information which would constitute material, non-public information regarding the Company or any of its Subsidiaries and the Company agrees that the Holders shall not have any duty of confidentiality to the Company or any of its Subsidiaries with respect to the information contained in such notice and shall not have any duty to the Company or any of its Subsidiaries not to trade on the basis of such information, provided that the Holders shall remain subject to applicable law.

(e) Use its reasonable best efforts to avoid the issuance of, or, if issued, obtain the withdrawal of (i) any order stopping or suspending the effectiveness of a Registration Statement, or (ii) any suspension of the qualification (or exemption from qualification) of any of the Registrable Securities for sale in any jurisdiction, at the earliest practicable moment.

(f) Furnish to each Holder whose Registrable Securities are included in any Registration Statement, if requested by such Holder, without charge, at least one conformed copy of each such Registration Statement and each amendment thereto, including financial statements and schedules, all documents incorporated or deemed to be incorporated therein by reference to the extent requested by such Holder, and all exhibits to the extent requested by such Holder (including those previously furnished or incorporated by reference) promptly after the filing of such documents with the Commission, provided that any such item which is available on the EDGAR system (or successor thereto) need not be furnished in physical form.

(g) Subject to the terms of this Agreement, the Company hereby consents to the use of such Prospectus and each amendment or supplement thereto by each of the selling Holders in connection with the offering and sale of the Registrable Securities covered by such Prospectus and any amendment or supplement thereto, except after the giving of any notice pursuant to Section 3(d).

(h) Cooperate with any broker-dealer through which a Holder proposes to resell its Registrable Securities in effecting a filing with the FINRA Corporate Financing Department pursuant to FINRA Rule 5110, as requested by any such Holder.

(i) Prior to any resale of Registrable Securities by a Holder, use its reasonable best efforts to register or qualify or cooperate with the selling Holders in connection with the registration or qualification (or exemption from the registration or qualification) of such Registrable Securities for the resale by the Holder under the securities or Blue Sky laws of such jurisdictions within the United States as any Holder reasonably requests in writing, to keep each registration or qualification (or exemption therefrom) effective during the Effectiveness Period and to do any and all other acts or things reasonably necessary to enable the disposition in such jurisdictions of the Registrable Securities covered by each Registration Statement, provided that the Company shall not be required to qualify generally to do business in any jurisdiction where it is not then so qualified, subject the Company to any material tax in any such jurisdiction where it is not then so subject or file a general consent to service of process in any such jurisdiction.

(j) If requested by a Holder, cooperate with such Holder to facilitate the timely preparation and delivery of certificates (or evidence of book entry transfer) representing Registrable Securities to be delivered to a transferee pursuant to a Registration Statement, which certificates (or evidence of book entry transfer) shall be free, to the extent permitted by the Investment Agreement, of all restrictive legends, and to enable such Registrable Securities to be in such denominations and registered in such names as any such Holder may request.

(k) Upon the occurrence of any event contemplated by Section 3(d), as promptly as reasonably possible under the circumstances taking into account the Company's good faith assessment of any adverse consequences to the Company and its stockholders of the premature disclosure of such event, prepare a supplement or amendment, including a post-effective amendment, to a Registration Statement or a supplement to the related Prospectus or any document incorporated or deemed to be incorporated therein by reference, and file any other required document so that, as thereafter delivered, neither a Registration Statement nor such Prospectus will contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. If the Company notifies the Holders in accordance with clauses (iii) through (vii) of Section 3(d) above to suspend the use of any Prospectus until the requisite changes to such Prospectus have been made, then the Holders shall suspend use of such Prospectus. The Company will use its reasonable best efforts to ensure that the use of the Prospectus may be resumed as promptly as is practicable. The Company shall be entitled to exercise its right under this Section 3(k) to suspend the availability of a Registration Statement and Prospectus, subject to the payment of partial liquidated damages otherwise required pursuant to Section 2(d), for a period not to exceed 60 calendar days (which need not be consecutive days) in any 12-month period.

(l) Otherwise use reasonable best efforts to comply with all applicable rules and regulations of the Commission under the Securities Act and the Exchange Act, including, without limitation, Rule 172 under the Securities Act, file any final Prospectus, including any supplement or amendment thereof, with the Commission pursuant to Rule 424 under the Securities Act, promptly inform the Holders in writing if, at any time during the Effectiveness Period, the Company does not satisfy the conditions specified in Rule 172 and, as a result thereof, the Holders are required to deliver a Prospectus in connection with any disposition of Registrable Securities and take such other actions as may be reasonably necessary to facilitate the registration of the Registrable Securities hereunder.

(m) The Company shall use its reasonable best efforts to maintain eligibility for use of Form S-3 (or any successor form thereto) for the registration of the resale of Registrable Securities

(n) The Company may require each selling Holder to furnish to the Company a certified statement as to the number of shares of Common Stock beneficially owned by such Holder and, if required by the Commission, the natural persons thereof that have voting and dispositive control over the shares. During any periods that the Company is unable to meet its obligations hereunder with respect to the registration of the Registrable Securities solely because any Holder fails to furnish such required information within three (3) Trading Days of the Company's request, any liquidated damages that are accruing at such time as to such Holder only shall be tolled and any Event that may otherwise occur solely because of such delay shall be suspended as to such Holder only, until such information is delivered to the Company.

Section 4. Registration Expenses. All fees and expenses incident to the performance of or compliance with this Agreement by the Company shall be borne by the Company whether or not any Registrable Securities are sold pursuant to a Registration Statement. The fees and expenses referred to in the foregoing sentence shall include, without limitation, (i) all registration and filing fees (including, without limitation, fees and expenses of the Company's counsel and independent

registered public accountants) (A) with respect to filings made with the Commission, (B) with respect to filings required to be made with any Trading Market on which the Common Stock is then listed for trading, (C) in compliance with applicable state securities or Blue Sky laws reasonably agreed to by the Company in writing (including, without limitation, fees and disbursements of counsel for the Company in connection with Blue Sky qualifications or exemptions of the Registrable Securities) and (D) if not previously paid by the Company, with respect to any filing that may be required to be made by any broker through which a Holder intends to make sales of Registrable Securities with FINRA pursuant to FINRA Rule 5110, so long as the broker is receiving no more than a customary brokerage commission in connection with such sale, (ii) printing expenses (including, without limitation, expenses of printing certificates for Registrable Securities), (iii) messenger, telephone and delivery expenses, (iv) fees and disbursements of counsel for the Company, (v) Securities Act liability insurance, if the Company so desires such insurance, and (vi) fees and expenses of all other Persons retained by the Company in connection with the consummation of the transactions contemplated by this Agreement. In addition, the Company shall be responsible for all of its internal expenses incurred in connection with the consummation of the transactions contemplated by this Agreement (including, without limitation, all salaries and expenses of its officers and employees performing legal or accounting duties), the expense of any annual audit and the fees and expenses (including application and filing fees) incurred in connection with the listing of the Registrable Securities on any securities exchange as required hereunder. In no event shall the Company be responsible for any broker or similar commissions of any Holder or, except to the extent provided for in the Transaction Documents, any legal fees or other costs of the Holders.

Section 5. Indemnification.

(a) Indemnification by the Company. The Company shall, notwithstanding any termination of this Agreement, indemnify and hold harmless each Holder who sells Registrable Securities covered by such Registration Statement and the officers, directors, members, stockholders, partners, advisors, agents, brokers, employees and other representatives (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of each of them, each Person who controls any such Holder (within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act) and the officers, directors, members, stockholders, partners, advisors, agents, brokers, employees and other representatives (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of each such controlling Person, to the fullest extent permitted by applicable law, from and against any and all losses, claims, damages, liabilities, costs (including, without limitation, reasonable attorneys' fees) and expenses (collectively, "Losses"), as incurred, arising out of or relating to (1) any untrue or alleged untrue statement of a material fact contained in a Registration Statement, any Prospectus or any form of prospectus or in any amendment or supplement thereto or in any preliminary prospectus, or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading, (2) any violation or alleged violation by the Company of the Securities Act, the Exchange Act or any other law, including, without limitation, any state securities law, or any rule or regulation thereunder, in connection with the performance of its obligations under this Agreement or (3) any material

violation by the Company of this Agreement, except to the extent, but only to the extent, that (i) such untrue statements or omissions are based solely upon information regarding such Holder furnished in writing to the Company by such Holder expressly for use therein, or to the extent that such information relates to such Holder or such Holder's proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in a Registration Statement, such Prospectus or in any amendment or supplement thereto (it being understood that the Holder has approved Annex A and Annex B hereto for this purpose) or (ii) in the case of an occurrence of an event of the type specified in Section 3(d)(iii)-(vii), the use by such Holder of an outdated, defective or otherwise unavailable Prospectus after the Company has notified such Holder in writing that the Prospectus is outdated, defective or otherwise unavailable for use by such Holder and prior to the receipt by such Holder of the Advice contemplated in Section 6(c), but only if and to the extent that following receipt of the Advice the misstatement or omission giving rise to such Loss would have been corrected. The Company shall notify the Holders promptly in writing of the institution, threat or assertion of any Proceeding arising from or in connection with the transactions contemplated by this Agreement of which the Company is aware. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such indemnified person and shall survive the transfer of any Registrable Securities by any of the Holders in accordance with Section 6(f).

(b) Indemnification by Holders. Each Holder shall, notwithstanding any termination of this Agreement, severally and not jointly, indemnify and hold harmless the Company, its directors, officers, agents, employees and other representatives (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title), each Person who controls the Company (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, agents, employees or other representatives (and any other Persons with a functionally equivalent role of a Person holding such titles, notwithstanding a lack of such title or any other title) of such controlling Persons, to the fullest extent permitted by applicable law, from and against all Losses, as incurred, to the extent arising out of or based solely upon any untrue or alleged untrue statement of a material fact contained in any Registration Statement, any Prospectus, or in any amendment or supplement thereto or in any preliminary prospectus, or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading (i) to the extent, but only to the extent, that such untrue statement or omission is contained in any information furnished in writing by such Holder to the Company expressly for inclusion therein or (ii) to the extent, but only to the extent, that such information relates to such Holder's information provided in the Selling Stockholder Questionnaire or the proposed method of distribution of Registrable Securities and was reviewed and expressly approved in writing by such Holder expressly for use in a Registration Statement, such Prospectus or in any amendment or supplement thereto (it being understood that the Holder has approved Annex A and Annex B hereto for this purpose). In no event shall the liability of a Holder be greater in amount than the dollar amount of the proceeds (net of all expenses paid by such Holder in connection with any claim relating to this Section 5 and the amount of any damages such Holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission) received by such Holder upon the sale of the Registrable Securities included in the Registration Statement giving rise to such indemnification obligation.

(c) Conduct of Indemnification Proceedings. If any Proceeding shall be brought or asserted against any Person entitled to indemnity hereunder (an "Indemnified Party"), such Indemnified Party shall promptly notify the Person from whom indemnity is sought (the "Indemnifying Party") in writing, and the Indemnifying Party shall have the right to assume the defense thereof, including the employment of counsel reasonably satisfactory to the Indemnified Party and the payment of all fees and expenses incurred in connection with defense thereof, provided that the failure of any Indemnified Party to give such notice shall not relieve the Indemnifying Party of its obligations or liabilities pursuant to this Agreement, except (and only) to the extent that it shall be finally determined by a court of competent jurisdiction (which determination is not subject to appeal or further review) that such failure shall have materially and adversely prejudiced the Indemnifying Party's ability to defend such action.

An Indemnified Party shall have the right to employ separate counsel in any such Proceeding and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party or Parties unless: (1) the Indemnifying Party has agreed in writing to pay such fees and expenses, (2) the Indemnifying Party shall have failed promptly to assume the defense of such Proceeding and to employ counsel reasonably satisfactory to such Indemnified Party in any such Proceeding, or (3) the named parties to any such Proceeding (including any impleaded parties) include both such Indemnified Party and the Indemnifying Party, and counsel to the Indemnified Party shall reasonably believe that a material conflict of interest is likely to exist if the same counsel were to represent such Indemnified Party and the Indemnifying Party (in which case, if such Indemnified Party notifies the Indemnifying Party in writing that it elects to employ separate counsel at the expense of the Indemnifying Party, the Indemnifying Party shall not have the right to assume the defense thereof and the reasonable fees and expenses of no more than one separate counsel shall be at the expense of the Indemnifying Party). The Indemnifying Party shall not be liable under this Section 5 (including with respect to any contribution obligations) for any settlement of any such Proceeding effected without its written consent, which consent shall not be unreasonably withheld, delayed or conditioned. No Indemnifying Party shall, without the prior written consent of the Indemnified Party, effect any settlement of any pending Proceeding in respect of which any Indemnified Party is a party, unless such settlement includes an unconditional release of such Indemnified Party from all liability on claims that are the subject matter of such Proceeding.

Subject to the terms of this Agreement, all reasonable fees and expenses of the Indemnified Party (including reasonable fees and expenses to the extent incurred in connection with investigating, preparing to defend or defending such Proceeding in a manner not inconsistent with this Section) shall be paid to the Indemnified Party, as incurred, within ten Trading Days of written notice thereof to the Indemnifying Party, provided that the Indemnified Party shall promptly reimburse the Indemnifying Party for that portion of such fees and expenses applicable to such actions for which such Indemnified Party is finally determined by a court of competent jurisdiction (which determination is not subject to appeal or further review) not to be entitled to indemnification hereunder.

(d) Contribution. If the indemnification under Section 5(a) or 5(b) is unavailable to an Indemnified Party or insufficient to hold an Indemnified Party harmless for any Losses, then each Indemnifying Party shall contribute to the amount paid or payable by such Indemnified Party, in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party and Indemnified Party in connection with the actions, statements or omissions that resulted in such Losses as well as any other relevant equitable considerations. The relative fault of such Indemnifying Party and Indemnified Party shall be determined by reference to, among other things, whether any action in question, including any untrue or alleged untrue statement of a material fact or omission or alleged omission of a material fact, has been taken or made by, or relates to information supplied by, such Indemnifying Party or Indemnified Party, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such action, statement or omission. The amount paid or payable by a party as a result of any Losses shall be deemed to include, subject to the limitations set forth in this Agreement, any reasonable attorneys' or other fees or expenses incurred by such party in connection with any Proceeding to the extent such party would have been indemnified for such fees or expenses if the indemnification provided for in this Section was available to such party in accordance with its terms.

The parties hereto agree that it would not be just and equitable if contribution pursuant to this Section 5(d) were determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to in the immediately preceding paragraph. In no event shall the contribution obligation of a Holder of Registrable Securities be greater in amount than the dollar amount of the proceeds (net of all expenses paid by such Holder in connection with any claim relating to this Section 5 and the amount of any damages such Holder has otherwise been required to pay by reason of such untrue statement or omission or alleged omission) received by it upon the sale of the Registrable Securities giving rise to such contribution obligation.

The indemnity and contribution agreements contained in this Section are in addition to any liability that the Indemnifying Parties may have to the Indemnified Parties.

Section 6. Miscellaneous.

(a) Remedies. In the event of a breach by the Company or by a Holder of any of their respective obligations under this Agreement, each Holder or the Company, as the case may be, in addition to being entitled to exercise all rights granted by law and under this Agreement, including recovery of damages, shall be entitled to specific performance of its rights under this Agreement. Each of the Company and each Holder agrees that monetary damages may not provide adequate compensation for any losses incurred by reason of a breach by it of any of the provisions of this Agreement and hereby further agrees that, in the event of any action for specific performance in respect of such breach, it shall not assert or shall waive the defense that a remedy at law would be adequate.

(b) No Piggyback on Registrations; Prohibition on Filing Other Registration Statements. Neither the Company nor any of its security holders may include securities of the Company in any Registration Statements other than the Registrable Securities until such time as the Registrable Securities have all been registered pursuant to this Agreement. The Company shall not file any other registration statements (other than Registration Statements on Form S-8) until

all Registrable Securities are registered pursuant to a Registration Statement that is declared effective by the Commission, provided that this Section 6(b) shall not prohibit the Company from filing amendments to registration statements filed prior to the date of this Agreement so long as no new securities are registered on any such existing registration statements.

(c) Discontinued Disposition. By its acquisition of Registrable Securities, each Holder agrees that, upon receipt of a notice from the Company of the occurrence of any event of the kind described in Section 3(d)(iii) through (vii), such Holder will forthwith discontinue disposition of such Registrable Securities under a Registration Statement until it is advised in writing (the "Advice") by the Company that the use of the applicable Prospectus (as it may have been supplemented or amended) may be resumed. The Company will use its reasonable best efforts to ensure that the use of the Prospectus may be promptly resumed. Any periods during which the Holder is required to discontinue the disposition of the Registrable Securities hereunder shall be subject to the provisions of Section 2(d).

(d) Future Registration Rights. In the event that the Holder and the Company enter into a new registration rights agreement pursuant to Article V of the Investment Agreement, such registration rights agreement shall be on terms no less favorable to the Holder than this Agreement.

(e) Amendments and Waivers. The provisions of this Agreement, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions hereof may not be given, unless the same shall be in writing and signed by the Company and the Holders of 50% or more of the then outstanding Registrable Securities (for purposes of clarification, this includes any Registrable Securities issuable upon exercise or conversion of any Security), provided that, if any amendment, modification or waiver disproportionately and adversely impacts a Holder (or group of Holders), the consent of such disproportionately impacted Holder (or group of Holders) shall be required. If a Registration Statement does not register all of the Registrable Securities pursuant to a waiver or amendment effected in compliance with the previous sentence, then the number of Registrable Securities to be registered for each Holder shall be reduced pro rata among all Holders and each Holder shall have the right to designate which of its Registrable Securities shall be omitted from such Registration Statement. Notwithstanding the foregoing, a waiver or consent to depart from the provisions hereof with respect to a matter that relates exclusively to the rights of a Holder or some Holders and that does not directly or indirectly affect the rights of other Holders may be given only by such Holder or Holders of all of the Registrable Securities to which such waiver or consent relates; provided, however, that the provisions of this sentence may not be amended, modified, or supplemented except in accordance with the provisions of the first sentence of this Section 6(e). No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of this Agreement unless the same consideration also is offered to all of the parties to this Agreement.

(f) Notices. Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be delivered as set forth in the Investment Agreement, *mutatis mutandis*.

(g) Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the successors and permitted assigns of each of the parties and shall inure to the benefit of each Holder. The Company may not assign (except by merger) its rights or obligations hereunder without the prior written consent of all of the Holders of the then outstanding Registrable Securities. Each Holder may assign their respective rights hereunder in the manner and to the Persons as permitted under Section 8.8 of the Investment Agreement.

(h) No Inconsistent Agreements. Neither the Company nor any of its Subsidiaries has entered, as of the date hereof, nor shall the Company or any of its Subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities, that would have the effect of impairing the rights granted to the Holders in this Agreement or otherwise conflicts with the provisions hereof. Neither the Company nor any of its Subsidiaries has previously entered into any agreement granting any registration rights with respect to any of its securities to any Person that have not been satisfied in full.

(i) Execution and Counterparts. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that parties need not sign the same counterpart. In the event that any signature is delivered by delivery of a “.pdf” format data file or any electronic signature complying with the U.S. federal E-SIGN Act of 2000, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such “.pdf” signature page were an original thereof.

(j) Governing Law. Section 8.11 and 8.12 of the Investment Agreement shall be incorporated herein and shall apply to this Agreement, *mutatis mutandis*.

(k) Cumulative Remedies. The remedies provided herein are cumulative and not exclusive of any other remedies provided by law.

(l) Severability. If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their reasonable best efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

(m) Headings. The headings in this Agreement are for convenience only, do not constitute a part of the Agreement and shall not be deemed to limit or affect any of the provisions hereof.

(n) Independent Nature of Holders' Obligations and Rights. The obligations of each Holder hereunder are several and not joint with the obligations of any other Holder hereunder, and no Holder shall be responsible in any way for the performance of the obligations of any other Holder hereunder. Nothing contained herein or in any other agreement or document delivered at any closing, and no action taken by any Holder pursuant hereto or thereto, shall be deemed to constitute the Holders as a partnership, an association, a joint venture or any other kind of group or entity, or create a presumption that the Holders are in any way acting in concert or as a group or entity with respect to such obligations or the transactions contemplated by this Agreement or any other matters, and the Company acknowledges that the Holders are not acting in concert or as a group, and the Company shall not assert any such claim, with respect to such obligations or transactions. Each Holder shall be entitled to protect and enforce its rights, including without limitation the rights arising out of this Agreement, and it shall not be necessary for any other Holder to be joined as an additional party in any proceeding for such purpose. It is expressly understood and agreed that each provision contained in this Agreement is between the Company and a Holder, solely, and not between the Company and the Holders collectively and not between and among Holders.

(Signature Pages Follow)

IN WITNESS WHEREOF, the parties have executed this Registration Rights Agreement as of the date first written above.

PERSPECTIVE THERAPEUTICS, INC.

By: /s/ Johan (Thijs) Spoor

Name: Johan (Thijs) Spoor

Title: Chief Executive Officer

[Signature Page to Registration Rights Agreement]

HOLDER:

LANTHEUS ALPHA THERAPY, LLC

By: /s/ Mary Anne Heino

Name: Mary Anne Heino

Title: Chief Executive Officer

[Signature Page to Registration Rights Agreement]

PLAN OF DISTRIBUTION

Each Selling Stockholder (the “Selling Stockholders”) of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their respective securities covered hereby on the Trading Market or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- in transactions through broker-dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- by pledge to secure debts and other obligations;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

A Selling Stockholder may also sell securities under Rule 144 or any other exemption from registration under the Securities Act of 1933, as amended, or the Securities Act, if available, rather than under this prospectus, provided they meet the criteria and conform to the requirements of those provisions.

Broker-dealers engaged by a Selling Stockholder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from a Selling Stockholder (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

A Selling Stockholder may enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

A Selling Stockholder and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

We are required to pay certain fees and expenses incurred by us incident to the registration of the securities. We have agreed to indemnify any Selling Stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, in accordance with the registration rights agreement, or the Selling Stockholder will be entitled to contribution. We may be indemnified by the Selling Stockholder against civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the Selling Stockholder specifically for use in this prospectus, in accordance with the registration rights agreement, or we may be entitled to contribution.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the Selling Stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for us to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the common stock by a Selling Stockholder or any other person. We will make copies of this prospectus available to a Selling Stockholder and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

SELLING STOCKHOLDERS

The shares of common stock being offered by the selling stockholders are those previously issued to the selling stockholders, and those issuable to the selling stockholders, pursuant to that certain Investment Agreement dated as of January 8, 2024. For additional information regarding the issuances of those shares of common stock see “Private Placement of Shares of Common Stock” above. We are registering the shares of common stock in order to permit the selling stockholders to offer the shares for resale from time to time. Except for the selling stockholders whose relationships are provided in “Certain Relationships and Related Party Transactions”¹, the selling stockholders have not had any material relationship with us within the past three years.

The table below lists the selling stockholders and other information regarding the beneficial ownership of the shares of common stock by each of the selling stockholders. The second column lists the number of shares of common stock beneficially owned by each selling stockholder, based on its ownership of the shares of common stock as of _____, 2024.

The third column lists the shares of common stock being offered by this prospectus by the selling stockholders.

In accordance with the terms of a Registration Rights Agreement with the selling stockholders, this prospectus generally covers the resale of the maximum number of shares of common stock issuable to the selling stockholders in the “Private Placement of Shares of Common Stock” described above as of the trading day immediately preceding the applicable date of determination and subject to adjustment as provided in the Registration Rights Agreement. The fourth column assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

The selling stockholders may sell all, some or none of their shares in this offering. See “Plan of Distribution.”

Name of Selling Stockholder	Number of Shares of Common Stock Owned Prior to Offering	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus	Number of Shares of Common Stock Owned After Offering
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¹ Note: To add based on questionnaire, if applicable.

**PERSPECTIVE THERAPEUTICS INC.
SELLING STOCKHOLDER NOTICE AND QUESTIONNAIRE**

The undersigned beneficial owner of shares of common stock (such securities, the “Registrable Securities”) of Perspective Therapeutics Inc., a Delaware corporation (the “Company”), understands that the Company has filed or intends to file with the Securities and Exchange Commission (the “Commission”) a registration statement (the “Registration Statement”) for the registration and resale under Rule 415 of the Securities Act of 1933, as amended (the “Securities Act”), of the Registrable Securities, in accordance with the terms of the Registration Rights Agreement (the “Registration Rights Agreement”) to which this document is annexed. A copy of the Registration Rights Agreement is available from the Company upon request at the address set forth below. All capitalized terms not otherwise defined herein have the meanings ascribed thereto in the Registration Rights Agreement.

Certain legal consequences arise from being named as a selling stockholder in the Registration Statement and the related prospectus. Accordingly, holders and beneficial owners of Registrable Securities are advised to consult their own securities law counsel regarding the consequences of being named or not being named as a selling stockholder in the Registration Statement and the related prospectus.

NOTICE

The undersigned beneficial owner (the “Selling Stockholder”) of Registrable Securities hereby elects to include the Registrable Securities owned by it in the Registration Statement. The Selling Stockholder, by signing and returning this Notice and Questionnaire, understands and agrees that it will be bound by the terms and conditions of this Notice and Questionnaire and the Registration Rights Agreement.

The undersigned hereby provides the following information to the Company and represents and warrants that such information is accurate:

QUESTIONNAIRE

1. Name.

(a) Full Legal Name of Selling Stockholder:

(b) Full Legal Name of Registered Holder (if not the same as (a) above) through which Registrable Securities are held:

(c) Full Legal Name of Natural Control Person (which means a natural person who directly or indirectly alone or with others has power to vote or dispose of the securities covered by this Questionnaire):

2. Address for Notices to Selling Stockholder:

Telephone: _____

Email: _____

Contact Person: _____

3. Broker-Dealer Status:

(a) Are you a broker-dealer?

Yes No

(b) If “yes” to Section 3(a), did you receive your Registrable Securities as compensation for investment banking services to the Company?

Yes No

Note: If “no” to Section 3(b), the Commission’s staff has indicated that you should be identified as an underwriter in the Registration Statement.

(c) Are you an affiliate of a broker-dealer?

Yes No

(d) If you are an affiliate of a broker-dealer, do you certify that you purchased the Registrable Securities in the ordinary course of business, and at the time of the purchase of the Registrable Securities to be resold, you had no agreements or understandings, directly or indirectly, with any person to distribute the Registrable Securities?

Yes No

Note: If “no” to Section 3(d), the Commission’s staff has indicated that you should be identified as an underwriter in the Registration Statement.

4. Beneficial Ownership of Securities of the Company Owned by the Selling Stockholder.

Except as set forth below in this Item 4, the undersigned is not the beneficial or registered owner of any securities of the Company other than the securities issuable pursuant to the Investment Agreement.

(a) Type and Amount of other securities beneficially owned by the Selling Stockholder:

5. Relationships with the Company:

Except as set forth below, neither the undersigned nor any of its affiliates, officers, directors or principal equity holders (owners of 5% or more of the equity securities of the undersigned) has held any position or office or has had any other material relationship with the Company (or its predecessors or affiliates) during the past three years.

State any exceptions here:

The undersigned agrees to promptly notify the Company of any inaccuracies or changes in the information provided herein that may occur subsequent to the date hereof at any time while the Registration Statement remains effective; provided, that the undersigned shall not be required to notify the Company of any changes to the number of securities held or owned by the undersigned or its affiliates.

By signing below, the undersigned consents to the disclosure of the information contained herein in its answers to Items 1 through 5 and the inclusion of such information in the Registration Statement and the related prospectus and any amendments or supplements thereto. The undersigned understands that such information will be relied upon by the Company in connection with the preparation or amendment of the Registration Statement and the related prospectus and any amendments or supplements thereto.

The undersigned acknowledges that it understands its obligations to comply with the provisions of the Securities Exchange Act of 1934, as amended, and the rules thereunder relating to stock manipulation, particularly Regulation M thereunder (or any successor rules or regulations), in connection with any offering of Registrable Securities pursuant to the Registration Rights Agreement. The undersigned agrees that neither it nor any person acting on its behalf will engage in any transaction in violation of such provisions.

IN WITNESS WHEREOF the undersigned, by authority duly given, has caused this Notice and Questionnaire to be executed and delivered either in person or by its duly authorized agent.

Date: _____

Beneficial Owner: _____

By: _____

Name:

Title:

PLEASE EMAIL A PDF COPY OF THE COMPLETED AND EXECUTED NOTICE AND QUESTIONNAIRE TO:

Hogan Lovells US LLP, Counsel to the Company

Stephen M. Nicolai and Amanda Brown

**Email: stephen.nicolai@hoganlovells.com;
amanda.brown@hoganlovells.com**

POWER OF ATTORNEY

Know all by these presents, that Lantheus Holdings, Inc. (the "Company") hereby constitutes and appoints each of Dan Niedzwiecki, Eric Green and Dustin Hawks of the Company and Jill Simon of Cooley LLP, signing singly, and with full power of substitution, the Company's true and lawful attorneys-in-fact and agents to:

(1) prepare, execute in the Company's name and on the Company's behalf, and submit to the U.S. Securities and Exchange Commission (the "SEC") a Form ID, including amendments thereto, and any other documents necessary or appropriate to obtain codes and passwords enabling the Company to make electronic filings with the SEC of reports required by Sections 13 or 16(a) of the Securities Exchange Act of 1934 (the "Exchange Act") or any rule or regulation of the SEC;

(2) prepare, execute in the Company's name and on the Company's behalf, and submit to the SEC (i) beneficial ownership reports on Schedule 13D or 13G, in accordance with Section 13 of the Exchange Act and the rules thereunder, (ii) Forms 3, 4, and 5, in accordance with Section 16(a) of the Exchange Act and the rules thereunder and (iii) Forms 144, in accordance with the Securities Act of 1933 (the "Securities Act") and the rules thereunder (collectively, the "Covered Forms");

(3) do and perform any and all acts for and on behalf of the Company that may be necessary or desirable to complete and execute any Covered Form, complete and execute any amendment or amendments thereto, and timely file such form with the SEC and any stock exchange, self-regulatory association or any similar authority; and

(4) take any other action of any type whatsoever in connection with the foregoing that, in the opinion of such attorney-in-fact, may be of benefit to, in the best interest of, or legally required of, the Company, it being understood that the documents executed by such attorney-in-fact on behalf of the Company pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The Company hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the Company might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The Company acknowledges that the foregoing attorneys-in-fact, and their substitutes, in serving in such capacity at the request of the Company, are not assuming any of the Company's responsibilities to comply with Sections 13 or 16 of the Exchange Act or the provisions of the Securities Act.

This Power of Attorney shall remain in full force and effect until the Company is no longer required to file Form ID or the Covered Forms unless earlier revoked by the Company in a signed writing delivered to the attorneys-in-fact or, as to any attorney-in-fact individually, such attorney-in-fact is no longer affiliated with Cooley LLP or the Company, as applicable. This Power of Attorney revokes any other power of attorney that the Company has previously granted to representatives of Cooley LLP. This Power of Attorney may be filed with the SEC as a confirming statement of the authority granted herein.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Power of Attorney to be executed as of this 30th day of January, 2024.

LANTHEUS HOLDINGS, INC.

By: /s/ Mary Anne Heino

Name: Mary Anne Heino

Title: Chief Executive Officer

POWER OF ATTORNEY

Know all by these presents, that Lantheus Alpha Therapy, LLC (the "Company") hereby constitutes and appoints each of Dan Niedzwiecki, Eric Green and Dustin Hawks of the Company and Jill Simon of Cooley LLP, signing singly, and with full power of substitution, the Company's true and lawful attorneys-in-fact and agents to:

- (1) prepare, execute in the Company's name and on the Company's behalf, and submit to the U.S. Securities and Exchange Commission (the "SEC") a Form ID, including amendments thereto, and any other documents necessary or appropriate to obtain codes and passwords enabling the Company to make electronic filings with the SEC of reports required by Sections 13 or 16(a) of the Securities Exchange Act of 1934 (the "Exchange Act") or any rule or regulation of the SEC;
- (2) prepare, execute in the Company's name and on the Company's behalf, and submit to the SEC (i) beneficial ownership reports on Schedule 13D or 13G, in accordance with Section 13 of the Exchange Act and the rules thereunder, (ii) Forms 3, 4, and 5, in accordance with Section 16(a) of the Exchange Act and the rules thereunder and (iii) Forms 144, in accordance with the Securities Act of 1933 (the "Securities Act") and the rules thereunder (collectively, the "Covered Forms");
- (3) do and perform any and all acts for and on behalf of the Company that may be necessary or desirable to (a) prepare and execute any such Form ID and to complete and execute any Covered Form, complete and execute any amendment or amendments thereto and (b) timely file each such form with the SEC and any stock exchange, self-regulatory association or any similar authority; and
- (4) take any other action of any type whatsoever in connection with the foregoing that, in the opinion of such attorney-in-fact, may be of benefit to, in the best interest of, or legally required of the Company, it being understood that the documents executed by such attorney-in-fact on behalf of the Company pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The Company hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the Company might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The Company acknowledges that the foregoing attorneys-in-fact, and their substitutes, in serving in such capacity at the request of the Company, are not assuming any of the Company's responsibilities to comply with Sections 13 or 16 of the Exchange Act or the provisions of the Securities Act.

This Power of Attorney shall remain in full force and effect until the Company is no longer required to file Form ID or the Covered Forms unless earlier revoked by the Company in a signed writing delivered to the attorneys-in-fact or, as to any attorney-in-fact individually, such attorney-in-fact is no longer affiliated with Cooley LLP or the Company, as applicable. This Power of Attorney revokes any other power of attorney that the Company has previously granted to representatives of Cooley LLP. This Power of Attorney may be filed with the SEC as a confirming statement of the authority granted herein.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Power of Attorney to be executed as of this 30th day of January, 2024.

LANTHEUS ALPHA THERAPY, LLC

By: /s/ Mary Anne Heino

Name: Mary Anne Heino

Title: Chief Executive Officer

JOINT FILING AGREEMENT

The undersigned hereby agree that a single Schedule 13D (or any amendment thereto) relating to the Common Stock of Perspective Therapeutics, Inc. shall be filed on behalf of each of the undersigned and that this Agreement shall be filed as an exhibit to such Schedule 13D.

Date: February 1, 2024

LANTHEUS HOLDINGS, INC.

By: /s/ Mary Anne Heino

Name: Mary Anne Heino

Title: Chief Executive Officer

LANTHEUS ALPHA THERAPY, LLC

By: /s/ Mary Anne Heino

Name: Mary Anne Heino

Title: Chief Executive Officer