

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

SCHEDULE 13D

**Under the Securities Exchange Act of 1934
(Amendment No.)***

**XENON PHARMACEUTICALS INC.
(Name of Issuer)**

**Common Stock, without par value
(Title of Class of Securities)**

**98420N105
(CUSIP Number)**

**Kevin C. Gorman, Ph.D.
Chief Executive Officer
Neurocrine Biosciences, Inc.
12780 El Camino Real
San Diego, CA 92130
(858) 617-7600**

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

**December 5, 2019
(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 which 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 Rule 13d-7 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).

| | |
|---|--|
| 1 | NAME OF REPORTING PERSON: Neurocrine Biosciences, Inc. |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input checked="" type="checkbox"/> |
| 3 | SEC USE ONLY |
| 4 | SOURCE OF FUNDS WC – See Item 3 |
| 5 | CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2 <input type="checkbox"/> |
| 6 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware |

| | | |
|--|----|-------------------------------------|
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH | 7 | SOLE VOTING POWER 1,408,847 |
| | 8 | SHARED VOTING POWER 0 |
| | 9 | SOLE DISPOSITIVE POWER 1,408,847 |
| | 10 | SHARED DISPOSITIVE POWER 0 |

| | |
|----|--|
| 11 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,408,847 |
| 12 | CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES <input type="checkbox"/> |
| 13 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 5.4%* |
| 14 | TYPE OF REPORTING PERSON CO |

* This percentage is calculated based upon 25,868,956 shares of common stock outstanding as of November 1, 2019, as reported in the Xenon Pharmaceuticals Inc. Quarterly Report on Form 10-Q (Commission File No. 001-36687) filed with the Securities and Exchange Commission on November 5, 2019 for the quarterly period ended September 30, 2019.

Item 1. Security and Issuer.

This Schedule 13D relates to the common stock, without par value, of Xenon Pharmaceuticals Inc. (the “**Issuer**”). The Issuer’s principal executive office is located at 200-3650 Gilmore Way, Burnaby, British Columbia, Canada V5G 4W8.

Item 2. Identity and Background.

This Schedule 13D is being filed on behalf of Neurocrine Biosciences, Inc., a Delaware corporation (the “**Reporting Person**”). The Reporting Person’s principal executive offices are located at 12780 El Camino Real, San Diego, California 92130. The principal business of the Reporting Person is discovering, developing, and commercializing innovative and life-changing pharmaceuticals, in diseases with high unmet medical needs, focused on neurological and endocrine related diseases and disorders.

During the last five years, the Reporting Person: (i) has not been convicted in any criminal proceeding; and (ii) has not been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction resulting in it being 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.

This Schedule 13D relates to the purchase of an aggregate of 1,408,847 shares of common stock of the Issuer (the “**Shares**”) on December 5, 2019, at a price of \$14.196 per share, for an aggregate purchase price of approximately \$20.0 million. The Shares were purchased by the Reporting Person with funds from its working capital.

Item 4. Purpose of Transaction.

On December 2, 2019, the Reporting Person entered into a Collaboration and License Agreement (the “**Collaboration Agreement**”) with the Issuer to identify, research and develop sodium channel inhibitors, including the Issuer’s clinical candidate XEN901 and preclinical candidates XEN393, XPC’535 and XPC’391, which compounds the Reporting Person will have the exclusive right to further develop and commercialize under the terms and conditions set forth in the Collaboration Agreement. Under the terms of the Collaboration Agreement, the Issuer granted to the Reporting Person an exclusive, royalty-bearing, sublicensable license to certain of the Issuer’s intellectual property rights for the research, development and commercialization of (i) XEN901; (ii) XEN393, XPC’535 and XPC’391; and (iii) certain research compounds that bind to and inhibit voltage-gated sodium channels NaV1.2 and NaV1.6 as their primary mechanism of action, on a worldwide basis for the treatment, cure, diagnosis, prediction or prevention of any human disease or disorder, state, condition and/or malady, subject to certain exceptions set forth in the Collaboration Agreement. Additional information regarding the Collaboration Agreement is set forth in the Issuer’s Current Report on Form 8-K filed on December 2, 2019.

In connection with the execution of the Collaboration Agreement, the Reporting Person and the Issuer also entered into a Share Purchase Agreement (the “**Share Purchase Agreement**”), pursuant to which the Reporting Person purchased the Shares on December 5, 2019.

The Reporting Person does not have a present plan or proposal that relates to or would result in any of the actions specified in clauses (a) through (j) of Item 4 of Schedule 13D.

Item 5. Interest in Securities of the Issuer.

- (a) See rows (11) and (13) of the cover page to this Schedule 13D for the aggregate number of shares of the Issuer’s common stock and percentage of the Issuer’s shares of common stock beneficially owned by the Reporting Person.
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- (b) See rows (7) through (10) of the cover page to this Schedule 13D for the number of shares of the Issuer's common stock as to which the Reporting Person has the sole or shared power to vote or direct the vote and sole or shared power to dispose or to direct the disposition.
- (c) Reference is made to the discussion in Item 3 and Item 4. Except as set forth herein, the Reporting Person has not effected any transaction in shares of the Issuer's common stock during the last 60 days.
- (d) No other person has the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the Shares.
- (e) Not applicable.

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

The Reporting Person and the Issuer are parties to the Share Purchase Agreement providing for standstill and lock-up restrictions with respect to the Shares.

The Shares are subject to lock-up restrictions, which, without prior approval of the Issuer, prohibit the Reporting Person from selling the Shares for a period of up to two years after the effective date of the Collaboration Agreement. In addition, the Reporting Person is, subject to certain exceptions, subject to a standstill agreement for a period of two years after the effective date of the Collaboration Agreement. Pursuant to the standstill agreement, the Reporting Person and its affiliates will not (1) acquire, offer to acquire or agree to acquire any of the Issuer's common shares or securities convertible into common shares, other than common shares issuable to the Reporting Person pursuant to the terms of the Collaboration Agreement; (2) make, or participate in, any solicitation of proxies to vote any voting securities of the Issuer or any of its subsidiaries, or propose to change or control the management or board of directors of the Issuer by use of any public communication to holders of securities intended for such purpose; (3) make a public proposal for a change of control of the Issuer; or (4) knowingly encourage, accept, or support a tender, exchange, or offer proposal by any person, which would result in a change of control of the Issuer. The Share Purchase Agreement contains certain other customary terms and conditions, including mutual representations, warranties and covenants.

The foregoing description of the terms of the Share Purchase Agreement is not complete and is qualified in its entirety by reference to the full text of the Share Purchase Agreement, a copy of which is filed herewith as Exhibit 7.01, and incorporated herein by reference.

Other than as described in this Schedule 13D, to the knowledge of the Reporting Person, there are no other contracts, arrangements, understandings or relationships (legal or otherwise) among the person named in Item 2 and between such persons and any person with respect to any securities of the Issuer.

Item 7. Material to Be Filed as Exhibits.**EXHIBIT INDEX**

| <u>Exhibit</u> | <u>Description</u> |
|-----------------------|--|
| 7.01 | Share Purchase Agreement dated December 2, 2019 between Neurocrine Biosciences, Inc. and Xenon Pharmaceuticals Inc. (incorporated by reference to Exhibit 10.2 to the Issuer's Current Report on Form 8-K filed on December 2, 2019) |

SIGNATURE

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

Dated: December 11, 2019

NEUROCRINE BIOSCIENCES, INC.

By: /s/ Darin Lippoldt
Name: Darin Lippoldt
Title: Chief Legal Officer and Secretary