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

SCHEDULE 13G

**UNDER THE SECURITIES EXCHANGE ACT OF 1934
(Amendment No. __)**

Ionis Pharmaceuticals, Inc.

(Name of Issuer)

Common Stock
(Title of Class of Securities)

462222100
(CUSIP Number)

June 5, 2018
(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

* 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 the 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: I.R.S. IDENTIFICATION NO. OF ABOVE PERSON Biogen Inc. 33-0112644	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Massachusetts	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER
	6	SHARED VOTING POWER 11,501,153 shares
	7	SOLE DISPOSITIVE POWER
	8	SHARED DISPOSITIVE POWER 11,501,153 shares
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 11,501,153 shares	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES <input type="checkbox"/> CERTAIN SHARES	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 8.39%	
12	TYPE OF REPORTING PERSON CO	

1	NAME OF REPORTING PERSON: I.R.S. IDENTIFICATION NO. OF ABOVE PERSON Biogen MA Inc. 04-3002117	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Massachusetts	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER
	6	SHARED VOTING POWER 11,501,153 shares
	7	SOLE DISPOSITIVE POWER
	8	SHARED DISPOSITIVE POWER 11,501,153 shares
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 11,501,153 shares	
10	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES <input type="checkbox"/> CERTAIN SHARES	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 8.39%	
12	TYPE OF REPORTING PERSON CO	

Item 1(a). Name of Issuer:

Ionis Pharmaceuticals, Inc.

Item 1(b). Address of Issuer's Principal Executive Offices:

The principal business address of Ionis Pharmaceuticals, Inc. is 2855 Gazelle Court, Carlsbad, CA 92010.

Item 2(a). Name of Person Filing:

This statement is being filed on behalf of Biogen Inc. and Biogen MA Inc.

Item 2(b). Address of Principal Business Office or, if None, Residence:

The principal business office of Biogen Inc. and Biogen MA Inc. is 225 Binney Street, Cambridge, Massachusetts 02142.

Item 2(c). Citizenship:

Biogen Inc. is a corporation organized under the laws of the State of Delaware. Biogen MA Inc. is a corporation organized under the laws of the Commonwealth of Massachusetts.

Item 2(d). Title of Class of Securities:

Common Stock

Item 2(e). CUSIP Number:

462222100

Item 3. If this statement is filed pursuant to §§ 240.13d-1(b), or §§ 240.13d-2(b) or (c), check whether the person filing is a:

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o);
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);
- (d) Investment company registered under Section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);
- (e) An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);
- (g) A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);
- (h) A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act (15 U.S.C. 80a-3);
- (j) A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J);
- (k) Group, in accordance with §240.13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution:

Item 4. Ownership.

4(a) Amount beneficially owned:

11,501,153

4(b) Percent of Class:

8.39%, as calculated based on the number of shares of common stock outstanding disclosed in Ionis Pharmaceuticals, Inc.'s most recent quarterly report on Form 10-Q for the period ended March 31, 2018 and including shares issued to Biogen as part of this transaction.

4(c) Number of shares as to which such person has:

- (i) Sole power to vote or to direct the vote: 0
- (ii) Shared power to vote or to direct the vote: 11,501,153 shares
- (iii) Sole power to dispose or to direct the disposition of: 0
- (iv) Shared power to dispose or to direct the disposition of: 11,501,153 shares

Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following [].

Item 6. Ownership of More Than Five Percent on behalf of another person.

Not applicable.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being reported on by the Parent Holding Company.

Not applicable.

Item 8. Identification and Classification of Members of the Group.

Not applicable.

Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certifications.

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

BIOGEN INC.

By: /s/ James Basta

Name: James Basta

Title: Chief Corporation Counsel and Assistant Secretary

BIOGEN MA INC.

By: /s/ James Basta

Name: James Basta

Title: Chief Corporation Counsel and Assistant Secretary

Date: June 7, 2018

JOINT FILING AGREEMENT

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, each of the persons named below agrees to the joint filing of a Statement on Schedule 13G (including amendments thereto) with respect to the common stock, \$0.001 par value per share, of Ionis Pharmaceuticals, Inc., a Delaware corporation, and further agrees that this Joint Filing Agreement be included as an exhibit to such filings provided that, as contemplated by Section 13d-1(k)(1)(ii), no person shall be responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate. This Joint Filing Agreement may be executed in any number of counterparts, all of which together shall constitute one and the same instrument.

Dated as of June 7, 2018

BIOGEN INC.

By: /s/ James Basta

Name: James Basta

Title: Chief Corporation Counsel and Assistant Secretary

BIOGEN MA INC.

By: /s/ James Basta

Name: James Basta

Title: Chief Corporation Counsel and Assistant Secretary