FORM 4

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

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

| OMB APPROVAL | | | |
|--------------------------|-----------|--|--|
| OMB Number: | 3235-0287 | | |
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| Check this box if no longer subject to Section 16. Form 4 |
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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934

| | | | | | | 01 0000 | 011 30(11) 01 11 | è Ínvestment (| company Act c | 1 1340 | | | | | | | |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------|---------|-------------------------------------------------------------|--------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------|--|
| Name and Address of Reporting Person* HOUGEN ELIZABETH L. | | | | | | 2. Issuer Name and Ticker or Trading Symbol IONIS PHARMACEUTICALS INC [IONS] | | | | | | | Relationship of Reporting Person(s) to Issuer (Check all applicable) Director | | | ner | |
| | | | | | | | | | | | | X | Officer (give title | below) | Other (sp | ecify below) | |
| (Last) (First) (Middle) C/O IONIS PHARMACEUTICALS, INC. 2855 GAZELLE COURT | | | | | 3. Date of Earliest Transaction (Month/Day/Year) 01/01/2016 | | | | | | | | SVP, Finance & CFO | | | | |
| (Street) CARLSBAD CA 92010 | | | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | 6. Individe | Individual or Joint/Group Filing (Check Applicable Line) X Form filed by One Reporting Person Form filed by More than One Reporting Person | | | | | | |
| (City) | State) | (Zi | | | | | | | | | | | | | | | |
| | | | | Table I - | Non-De | rivative Se | curities A | cquired, D | isposed o | f, or Bene | ficially Own | ned | | | | | |
| 1. Title of Security (Instr. 3) | | | | | 2. Transac Date (Month/Da | Exec | Execution Date, | | 3. Transaction Code (Instr. 8) 4. Securi 3, 4 and | | ities Acquired (A) or Disposed Of (D 5) | | 5. Amount of Securit Beneficially Owned F Reported Transaction | ollowing Dire | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. | |
| | | | | | | (Mor | (Month/Day/Year) | Code V | Amount | | (A) or (D) | Price | (Instr. 3 and 4) | (5) | , | 4) | |
| Common Stock | 01/01/2 | 2016 01 | /01/2016 | J ⁽¹⁾ | v | 41 | A | \$47.7105 | 3,468 | | D | | | | | | |
| | | | | Table | | | | quired, Dis s, options, | | | cially Owne | t | | | | | |
| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transad (Instr. 8) | ction Code | Securities A | Number of Derivative curities Acquired (A) or sposed of (D) (Instr. 3, 4 d 5) | | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amount of Securities Derivative Security (Instr. 3 and | | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | |
| | | | | Code | v | (A) | (D) | Date Exercisable | Expiration Date | Title | | Amount or Number of Sha | res | Reported Transaction(s) (Instr. 4) | , | | |
| | | | | | | | | | | | | | | | | | |

- Explanation of Responses:

 1. Reporting 41 shares acquired under the Ionis Pharmaceuticals, Inc. Amended and Restated 2000 Employee Stock Purchase Plan on January 1, 2016. These 41 shares may not be sold until July 2, 2016.
- 2. Grant of 1/4/2016 to reporting person of stock options under the Ionis Pharmacueticals, Inc. 2011 Equity Incentive Plan. 25% of the shares subject to the option vest and become exercisable on 1/4/2017. Thereafter, the remaining shares subject to the option vest and become exercisable as to 0 on 1/4/2016.

Remarks:

/s/B. Lynne Parshall, attorney-in-fact
** Signature of Reporting Person

01/04/2016

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).
** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.

Know all by these presents, that the undersigned hereby constitutes and appoints each of Stanley T. Crooke and B. Lynne Parshall, signing individually, the undersign (1) execute for and on behalf of the undersigned, an officer, director or holder of 10% or more of a registered class of securities of Isis Pharmaceuticals, Inc. (Is (2) do and perform any and all acts for and on behalf of the undersigned that may be necessary or desirable to complete and execute such Form 3, 4 or 5, complete and (3) take any other action of any nature whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit, in the best in The undersigned 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, (1) This Power of Attorney shall remain in full force and effect until the earliest to occur of (a) the undersigned is no longer required to file Forms 3, 4 and 5 with 1

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of this 1st day of January, 2013.

/S/Elizabeth L. Hougen