

| OMB APPROVAL                                 |           |
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**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

|  |           |              |  |  |  |   |  |  |
|--|-----------|--------------|--|--|--|---|--|--|
| 1. Name and Address of Reporting Person*<br><u>Monia Brett P</u> |           |              | 2. Issuer Name and Ticker or Trading Symbol<br><u>IONIS PHARMACEUTICALS INC [ IONS ]</u>   |  |  | 5. Relationship of Reporting Person(s) to Issuer (Check all applicable)<br><input checked="" type="checkbox"/> Director 10% Owner<br><input checked="" type="checkbox"/> Officer (give title below) Other (specify below)<br><b>Chief Executive Officer</b> |  |  |
| (Last)   | (First)   | (Middle)     | 3. Date of Earliest Transaction (Month/Day/Year)<br><u>12/20/2023</u>  |  |  | 6. Individual or Joint/Group Filing (Check Applicable Line)<br><input checked="" type="checkbox"/> Form filed by One Reporting Person<br>Form filed by More than One Reporting Person   |  |  |
| <u>2855 GAZELLE COURT</u>  |           |              | 4. If Amendment, Date of Original Filed (Month/Day/Year)   |  |  |   |  |  |
| (Street)   |           |              |  |  |  |   |  |  |
| <u>CARLSBAD</u>  | <u>CA</u> | <u>92010</u> |  |  |  |   |  |  |
| (City) (State) (Zip)   |           |              | <b>Rule 10b5-1(c) Transaction Indication</b>   |  |  |   |  |  |
|  |           |              | <input checked="" type="checkbox"/> Check this box to indicate that a transaction was made pursuant to a contract, instruction or written plan that is intended to satisfy the affirmative defense conditions of Rule 10b5-1(c). See Instruction 10. |  |  |   |  |  |

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) |   | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) |            |                          | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|--------------------------|---|--|---|
|                                 |                                      |  | Code                           | V | Amount  | (A) or (D) | Price                    |   |  |   |
| Common Stock                    | 12/20/2023                           |  | M                              |   | 6,500   | A          | \$47.34                  | 124,611   | D  |   |
| Common Stock                    | 12/20/2023                           |  | S                              |   | 6,500   | D          | \$49.6374 <sup>(1)</sup> | 118,111   | D  |   |
| Common Stock                    | 12/21/2023                           |  | M                              |   | 17,500  | A          | \$47.34                  | 135,611   | D  |   |
| Common Stock                    | 12/21/2023                           |  | S                              |   | 17,500  | D          | \$49.2901 <sup>(2)</sup> | 118,111   | D  |   |

**Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)**

| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) |   | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) |        | 6. Date Exercisable and Expiration Date (Month/Day/Year) |                 | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 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 |
| Non-Qualified Stock Option (right to buy)  | \$47.34  | 12/20/2023                           |  | M                              |   |  | 6,500  | 01/03/2019   | 01/02/2024      | Common Stock  | 6,500                                      | \$0.0  | 17,500  | D  |       |
| Non-Qualified Stock Option (right to buy)  | \$47.34  | 12/21/2023                           |  | M                              |   |  | 17,500 | 01/03/2021   | 01/02/2024      | Common Stock  | 17,500                                     | \$0.0  | 0   | D  |       |

**Explanation of Responses:**

- The price reported in Column 4 is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$49.40 to \$49.90 inclusive. The reporting person undertakes to provide to Ionis Pharmaceuticals, Inc. any security holder of Ionis Pharmaceuticals, Inc. or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the ranges set forth in footnote (1) on this Form 4.
- The price reported in Column 4 is a weighted average price. These shares were sold in multiple transactions at prices ranging from \$49.11 to \$49.50 inclusive. The reporting person undertakes to provide to Ionis Pharmaceuticals, Inc. any security holder of Ionis Pharmaceuticals, Inc. or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares sold at each separate price within the ranges set forth in footnote (2) on this Form 4.

By: Patrick R. O'Neil, attorney- 12/22/2023  
in-fact For: Brett P. Monia

\*\* Signature of Reporting Person Date

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.