

Form 144

FORM 144

NOTICE OF PROPOSED SALE OF SECURITIES
PURSUANT TO RULE 144 UNDER THE SECURITIES ACT OF 1933

144: Filer Information

Filer CIK 0001564926
Filer CCC XXXXXXXXX
Is this a LIVE or TEST Filing? LIVE TEST

Submission Contact Information

Name
Phone
E-Mail Address

144: Issuer Information

Name of Issuer IONIS PHARMACEUTICALS INC
SEC File Number 000-19125
Address of Issuer 2855 GAZELLE COURT
CARLSBAD
CALIFORNIA
92010
Phone 7609319200
Name of Person for Whose Account the Securities are To Be Sold O'NEIL PATRICK R.

See the definition of "person" in paragraph (a) of Rule 144. Information is to be given not only as to the person for whose account the securities are to be sold but also as to all other persons included in that definition. In addition, information shall be given as to sales by all persons whose sales are required by paragraph (e) of Rule 144 to be aggregated with sales for the account of the person filing this notice.

Relationship to Issuer Officer

144: Securities Information

Title of the Class of Securities To Be Sold	Name and Address of the Broker	Number of Shares or Other Units To Be Sold	Aggregate Market Value	Number of Shares or Other Units Outstanding	Approximate Date of Sale	Name the Securities Exchange
COMMON STOCK	INSIGHT SECURITIES, INC. 600 CENTRAL STE 293 HIGHLAND PARK IL 60030	1527	63675.90	143100000	05/24/2023	NYSE

Furnish the following information with respect to the acquisition of the securities to be sold and with respect to the payment of all or any part of the purchase price or other consideration therefor:

144: Securities To Be Sold

Title of the Class	Date you Acquired	Nature of Acquisition Transaction	Name of Person from Whom Acquired	Is this a Gift?	Date Donor Acquired	Amount of Securities Acquired	Date of Payment	Nature of Payment *
COMMON STOCK	01/30/2023	COMPENSATION	IONIS PHARMACEUTICALS, INC.	<input type="checkbox"/>		1527	01/30/2023	COMPENSATION

* If the securities were purchased and full payment therefor was not made in cash at the time of purchase, explain in the table or in a note thereto the nature of the consideration given. If the consideration consisted of any note or other obligation, or if payment was made in installments describe the arrangement and state when the note or other obligation was discharged in full or the last installment paid.

Furnish the following information as to all securities of the issuer sold during the past 3 months by the person for whose account the securities are to be sold.

144: Securities Sold During The Past 3 Months

Nothing to Report

144: Remarks and Signature

Remarks INSIGHT SECURITIES SOLD 1,527 SHARES OF IONIS PHARMACUETICALS, INC. FOR PATRICK O'NEIL

Date of Notice 05/24/2023

Date of Plan Adoption or Giving of Instruction, If Relying on Rule 10b5-1 01/30/2023

ATTENTION:

The person for whose account the securities to which this notice relates are to be sold hereby represents by signing this notice that he does not know any material adverse information in regard to the current and prospective operations of the Issuer of the securities to be sold which has not been publicly disclosed. If such person has adopted a written trading plan or given trading instructions to satisfy Rule 10b5-1 under the Exchange Act, by signing the form and indicating the date that the plan was adopted or the instruction given, that person makes such representation as of the plan adoption or instruction date.

Signature MICHAEL MAKULA

ATTENTION: Intentional misstatements or omission of facts constitute Federal Criminal Violations (See 18 U.S.C. 1001)