

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

SCHEDULE 13G\*  
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT  
TO § 240.13d-1(b), (c), AND (d) AND AMENDMENTS THERETO FILED  
PURSUANT TO § 240.13d-2  
(Amendment No. 2)\*

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Vigil Neuroscience, Inc.  
(Name of Issuer)

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Common Stock, par value \$0.0001 per share (the "Shares")  
(Title of Class of Securities)

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92673K108  
(CUSIP Number)

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December 31, 2023  
(Date of Event Which Requires Filing of the 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 in 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).

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1.	NAME OF REPORTING PERSONS <b>Citadel Advisors LLC</b>	
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 <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER <b>0</b>
	6.	SHARED VOTING POWER <b>2,161,796 Shares</b>
	7.	SOLE DISPOSITIVE POWER <b>0</b>
	8.	SHARED DISPOSITIVE POWER <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON <b>See Row 6 above</b>	
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) <b>6.0%<sup>1</sup></b>	
12.	TYPE OF REPORTING PERSON <b>IA; OO; HC</b>	

<sup>1</sup> The percentages reported in this Schedule 13G are based upon 35,877,421 Shares outstanding as of October 31, 2023 (according to the issuer's Form 10-Q as filed with the Securities and Exchange Commission on November 7, 2023).

1.	NAME OF REPORTING PERSONS <b>Citadel Advisors Holdings LP</b>	
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 <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER <b>0</b>
	6.	SHARED VOTING POWER <b>2,161,796 Shares</b>
	7.	SOLE DISPOSITIVE POWER <b>0</b>
	8.	SHARED DISPOSITIVE POWER <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON <b>See Row 6 above</b>	
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) <b>6.0%</b>	
12.	TYPE OF REPORTING PERSON <b>PN; HC</b>	

1.	NAME OF REPORTING PERSONS <b>Citadel GP LLC</b>	
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 <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER <b>0</b>
	6.	SHARED VOTING POWER <b>2,161,796 Shares</b>
	7.	SOLE DISPOSITIVE POWER <b>0</b>
	8.	SHARED DISPOSITIVE POWER <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON <b>See Row 6 above</b>	
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) <b>6.0%</b>	
12.	TYPE OF REPORTING PERSON <b>OO; HC</b>	

1.	NAME OF REPORTING PERSONS <b>Citadel Securities LLC</b>	
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 <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER <b>0</b>
	6.	SHARED VOTING POWER <b>106 Shares</b>
	7.	SOLE DISPOSITIVE POWER <b>0</b>
	8.	SHARED DISPOSITIVE POWER <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON <b>See Row 6 above</b>	
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES  <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) <b>0.0%</b>	
12.	TYPE OF REPORTING PERSON <b>BD; OO</b>	

1.	NAME OF REPORTING PERSONS <b>Citadel Securities Group LP</b>	
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 <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER <b>0</b>
	6.	SHARED VOTING POWER <b>106 Shares</b>
	7.	SOLE DISPOSITIVE POWER <b>0</b>
	8.	SHARED DISPOSITIVE POWER <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON <b>See Row 6 above</b>	
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES  <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) <b>0.0%</b>	
12.	TYPE OF REPORTING PERSON <b>PN; HC</b>	

1.	NAME OF REPORTING PERSONS <b>Citadel Securities GP LLC</b>	
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 <b>Delaware</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER <b>0</b>
	6.	SHARED VOTING POWER <b>106 Shares</b>
	7.	SOLE DISPOSITIVE POWER <b>0</b>
	8.	SHARED DISPOSITIVE POWER <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON <b>See Row 6 above</b>	
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) <b>0.0%</b>	
12.	TYPE OF REPORTING PERSON <b>OO; HC</b>	

1.	NAME OF REPORTING PERSONS <b>Kenneth Griffin</b>	
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 <b>U.S. Citizen</b>	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER <b>0</b>
	6.	SHARED VOTING POWER <b>2,161,902 Shares</b>
	7.	SOLE DISPOSITIVE POWER <b>0</b>
	8.	SHARED DISPOSITIVE POWER <b>See Row 6 above</b>
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON <b>See Row 6 above</b>	
10.	CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) <b>6.0%</b>	
12.	TYPE OF REPORTING PERSON <b>IN; HC</b>	



**Item 1(a). Name of Issuer:**

Vigil Neuroscience, Inc.

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

100 Forge Road, Suite 700 Watertown, MA 02472 United States

**Item 2(a). Name of Person Filing:**

This Schedule 13G is being jointly filed by Citadel Advisors LLC ("Citadel Advisors"), Citadel Advisors Holdings LP ("CAH"), Citadel GP LLC ("CGP"), Citadel Securities LLC ("Citadel Securities"), Citadel Securities Group LP ("CALC4"), Citadel Securities GP LLC ("CSGP") and Mr. Kenneth Griffin (collectively with Citadel Advisors, CAH, CGP, Citadel Securities, CALC4 and CSGP, the "Reporting Persons") with respect to the Shares of the above-named issuer owned by Citadel Multi-Strategy Equities Master Fund Ltd., a Cayman Islands company ("CM"), and Citadel Securities. Such owned Shares may include other instruments exercisable for or convertible into Shares.

Citadel Advisors is the portfolio manager for CM. CAH is the sole member of Citadel Advisors. CGP is the general partner of CAH. CALC4 is the non-member manager of Citadel Securities. CSGP is the general partner of CALC4. Mr. Griffin is the President and Chief Executive Officer of CGP, and owns a controlling interest in CGP and CSGP.

The filing of this statement shall not be construed as an admission that any of the Reporting Persons is the beneficial owner of any securities covered by the statement other than the securities actually owned by such person (if any).

**Item 2(b). Address or Principal Business Office or, if none, Residence:**

The address of each of the Reporting Persons is Southeast Financial Center, 200 S. Biscayne Blvd., Suite 3300, Miami, Florida 33131.

**Item 2(c). Citizenship:**

Each of Citadel Advisors, CGP, Citadel Securities and CSGP is organized as a limited liability company under the laws of the State of Delaware. Each of CALC4 and CAH is organized as a limited partnership under the laws of the State of Delaware. Mr. Griffin is a U.S. citizen.

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

Common Stock, par value \$0.0001 per share

**Item 2(e). CUSIP Number:**

92673K108

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**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:**

A. Citadel Advisors LLC, Citadel Advisors Holdings LP and Citadel GP LLC

- (a) Each of Citadel Advisors LLC, Citadel Advisors Holdings LP and Citadel GP LLC may be deemed to beneficially own 2,161,796 Shares.
  - (b) The number of Shares that each of Citadel Advisors LLC, Citadel Advisors Holdings LP and Citadel GP LLC may be deemed to beneficially own constitutes 6.0% of the Shares outstanding.
  - (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: 2,161,796
    - (iii) sole power to dispose or to direct the disposition of: 0
    - (iv) shared power to dispose or to direct the disposition of: 2,161,796
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## B. Citadel Securities LLC

- (a) Citadel Securities LLC may be deemed to beneficially own 106 Shares.
- (b) The number of Shares that Citadel Securities LLC may be deemed to beneficially own constitutes 0.0% of the Shares outstanding.
- (c) Number of shares 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: 106
  - (iii) sole power to dispose or to direct the disposition of: 0
  - (iv) shared power to dispose or to direct the disposition of: 106

## C. Citadel Securities Group LP and Citadel Securities GP LLC

- (a) Each of Citadel Securities Group LP and Citadel Securities GP LLC may be deemed to beneficially own 106 Shares.
  - (b) The number of Shares that each of Citadel Securities Group LP and Citadel Securities GP LLC may be deemed to beneficially own constitutes 0.0% of the Shares outstanding.
  - (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: 106
    - (iii) sole power to dispose or to direct the disposition of: 0
    - (iv) shared power to dispose or to direct the disposition of: 106
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## D. Kenneth Griffin

- (a) Mr. Griffin may be deemed to beneficially own 2,161,902 Shares.
- (b) The number of Shares that Mr. Griffin may be deemed to beneficially own constitutes 6.0% of the Shares outstanding.
- (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: 2,161,902
  - (iii) sole power to dispose or to direct the disposition of: 0
  - (iv) shared power to dispose or to direct the disposition of: 2,161,902

**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 5 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.

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**SIGNATURE**

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

Dated February 14, 2024.

**CITADEL SECURITIES LLC**

By: /s/ Guy Miller  
Guy Miller, Authorized Signatory

**CITADEL ADVISORS LLC**

By: /s/ Seth Levy  
Seth Levy, Authorized Signatory

**CITADEL SECURITIES GROUP LP**

By: /s/ Guy Miller  
Guy Miller, Authorized Signatory

**CITADEL ADVISORS HOLDINGS LP**

By: /s/ Seth Levy  
Seth Levy, Authorized Signatory

**CITADEL SECURITIES GP LLC**

By: /s/ Guy Miller  
Guy Miller, Authorized Signatory

**CITADEL GP LLC**

By: /s/ Seth Levy  
Seth Levy, Authorized Signatory

**KENNETH GRIFFIN**

By: /s/ Seth Levy  
Seth Levy, attorney-in-fact\*

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\* Seth Levy is signing on behalf of Kenneth Griffin as attorney-in-fact pursuant to a power of attorney previously filed with the Securities and Exchange Commission, and hereby incorporated by reference herein. The power of attorney was filed as an attachment to a filing by Citadel Advisors LLC on Schedule 13G for Allakos Inc. on October 13, 2023.