SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934 (Amendment No. 5)*

Soleno Therapeutics, Inc.

(Name of Issuer)

Common Stock, par value \$0.001 per share (Title of Class of Securities)

> 834203200 (CUSIP Number)

Jeffrey Ferguson The Carlyle Group 1001 Pennsylvania Avenue, NW Suite 220 South Washington, D.C. 20004 (202) 729-5626 (Name, Address and Telephone Number of Person Authorized to Receive Notices and Communications)

> May 8, 2023 (Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), Rule 13d-1(f) or Rule 13d-1(g), check the following box. \Box

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7(b) for other parties to whom copies are to be sent.

* 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 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).

Explanatory Note

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This Amendment No. 5 to Schedule 13D ("Amendment No. 5") amends and supplements the Schedule 13D originally filed with the United States Securities and Exchange Commission on December 27, 2018 (as amended to date, the "Schedule 13D"), relating to the shares of common stock, par value \$0.001 per share (the "Common Stock"), of Soleno Therapeutics, Inc., a Delaware corporation (the "Issuer"). Capitalized terms used herein without definition shall have the meanings set forth in the Schedule 13D.

Item 4. Purpose of Transaction.

Item 4 of the Schedule 13D is hereby amended and supplemented as follows:

Closing of Securities Purchase Agreement

On May 8, 2023, pursuant to the Securities Purchase Agreement described in Amendment No. 4, the Issuer sold to entities affiliated with Nantahala Capital Management, LLC, Abingworth Bioventures VII LP, Vivo Capital, LLC and members of management (collectively, the "Purchasers") Warrants to purchase up to an aggregate of 22,598,870 shares of the Common Stock, at a purchase price of \$0.4425 per Warrant.

In that transaction, Abingworth Bioventures VII LP purchased Warrants to purchase up to an aggregate of 2,870,056 shares of Common Stock, consisting of 1,092,056 Tranche A Warrants and 1,778,000 Tranche B Warrants. Abingworth Bioventures VII LP's Warrants contain provisions preventing the Warrants from being exercised if such exercise would result in Abingworth Bioventures VII LP obtaining greater than 9.99% of the Issuer's voting securities.

The Tranche A Warrants are immediately exercisable for \$1.75 per share and must be exercised within 30 days of announcement of positive top-line data from the randomized withdrawal period of the Issuer's Study C602 and will expire if positive top-line data is not announced prior to the 3.5 year anniversary of the date of issuance. The Tranche B Warrants are immediately exercisable for \$2.50 per share and expire upon the earlier of 3.5 years from the date of issuance and 30 days following receipt of U.S. Food and Drug Administration approval of DCCR for the treatment of PWS.

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SIGNATURES

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.

Date: May 10, 2023

The Carlyle Group Inc.

By: /s/ Anne Frederick, attorney-in-fact Name: Curtis L. Buser Title: Chief Financial Officer

Carlyle Holdings I GP Inc.

 By:
 /s/ Anne Frederick, attorney-in-fact

 Name:
 Curtis L. Buser

 Title:
 Managing Director and Chief Financial Officer

Carlyle Holdings I GP Sub L.L.C.

By: Carlyle Holdings I GP Inc., its sole member

By:/s/ Anne Frederick, attorney-in-factName:Curtis L. BuserTitle:Managing Director and Chief Financial Officer

Carlyle Holdings I L.P.

By: /s/ Anne Frederick, attorney-in-fact Name: Curtis L. Buser Title: Managing Director

CG Subsidiary Holdings L.L.C.

By:/s/ Anne Frederick, attorney-in-factName:Curtis L. BuserTitle:Managing Director

TC Group, L.L.C.

By:/s/ Anne Frederick, attorney-in-factName:Curtis L. BuserTitle:Managing Director

Carlyle Investment Management L.L.C.

By: /s/ Anne Frederick, attorney-in-fact Name: Curtis L. Buser Title: Chief Financial Officer

Carlyle Genesis UK LLC

By: Carlyle Investment Management L.L.C., its sole member

By:/s/ Anne Frederick, attorney-in-factName:Curtis L. BuserTitle:Chief Financial Officer

Abingworth LLP

By: /s/ John Heard Name: John Heard Title: Authorized Signatory

Abingworth Bioventures VII LP

By: /s/ John Heard

Name: John Heard Title: Authorized Signatory