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

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the Month of December 2024

Commission File Number: 001-39487

Silence Therapeutics plc
(Exact Name of Registrant as Specified in Its Charter)

72 Hammersmith Road
London W14 8TH
United Kingdom
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

INCORPORATION BY REFERENCE

This Report on Form 6-K (this "Report") of Silence Therapeutics plc (the "Company"), excluding Exhibit 99.1 attached hereto, shall be deemed to be incorporated by reference into the Company's registration statement on Form F-3ASR (File No. 333-282779), the Company's registration statement on Form F-3 (File No. 333-279185), and the Company's registration statements on Form S-8 (File Nos. 333-248682 and 333-273576) and to be a part thereof from the date on which this Report is furnished, to the extent not superseded by documents or reports subsequently filed or furnished.

Exhibit 99.1 to this Report is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Exchange Act.

INFORMATION CONTAINED IN THIS REPORT ON FORM 6-K

Press Release

On December 9, 2024, the Company issued a press release announcing the presentation of additional results from the Phase 1 open label portion of the SANRECO study of diversiran in patients with polycythemia vera at the 66th American Society of Hematology Annual Meeting and Exposition taking place December 7-10, 2024 in San Diego, California. A copy of the press release is furnished as Exhibit 99.1 to this Report. A copy of the presentation used during the oral session is posted on the Company's website.

EXHIBIT INDEX

Exhibit No.	Description
99.1	Press release, dated December 9, 2024.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SILENCE THERAPEUTICS PLC

Date: December 9, 2024

By: /s/ Craig Tooman
Craig Tooman
President and Chief Executive Officer

Exhibit 99.1

Silence Therapeutics Presents Promising Phase 1 Data in Polycythemia Vera Patients at the American Society of Hematology (ASH) Annual Meeting

New divesiran data continue to show substantial reduction in phlebotomy frequency and lowering of hematocrit levels in PV patients

Silence also announces first subject dosed in Phase 2 study of divesiran in PV patients

Company reinforces commitment to prioritize divesiran development as the first-in-class siRNA in PV

9 December 2024

LONDON, Silence Therapeutics plc ("Silence" or the "Company") (Nasdaq: SLN), a global clinical-stage company developing novel siRNA (short interfering RNA) therapies, today announced additional results from the Phase 1 open label portion of the SANRECO study of divesiran, a siRNA targeting *TMPRSS6*, in patients with polycythemia vera (PV) were presented at the American Society of Hematology (ASH) Annual Meeting being held in San Diego, California.

"Additional divesiran data presented at ASH continue to support a compelling profile in PV and highlight the broad potential of our siRNA platform to target both rare and common genetic diseases," said Craig Tooman, President and CEO at Silence. "Based on these very encouraging results, we are committed to advancing divesiran development as the first-in-class siRNA in PV and will prioritize our resources to ensure we are well positioned to progress this very promising program. To this end, we are pleased to have dosed the first subject in the Phase 2 portion of the SANRECO study, which is currently underway."

Initial results from the SANRECO Phase 1 study were presented in June 2024 and showed that all doses of divesiran substantially reduced phlebotomy frequency and lowered hematocrit (HCT) in 16 phlebotomy dependent PV patients regardless of baseline HCT levels. Additional data presented at ASH further support those findings and included 19 PV patients with a combined history of 79 phlebotomies prior to enrolment. Following divesiran dosing, only five phlebotomies occurred during the 18-week treatment period – all were in patients who entered the study with high baseline HCT levels (over 45%). Two phlebotomies occurred in the 16-week follow-up period following the last administered dose.

Consistent with results reported in June, there was a sustained reduction in HCT during the treatment period and favorable effects on indices of iron metabolism. Hepcidin levels increased and were sustained within physiological levels in all dose groups, demonstrating consistent target engagement. Importantly, divesiran continues to be well tolerated to-date with no dose-limiting toxicities.

"PV patients could benefit from a novel treatment option that effectively manages their condition without causing serious adverse effects," said Marina Kremyanskaya, MD, PhD, Associate Professor of Medicine, Hematology and Medical Oncology, at the Icahn School of Medicine at Mount Sinai. "In the Phase 1 portion of the SANRECO study, divesiran substantially reduced the need for phlebotomy and lowered hematocrit levels following infrequent dosing in a range of PV patients. I'm particularly impressed by the long duration of effect and clean safety/tolerability profile. These data are very exciting and support further development of divesiran in PV."

The ASH presentation is available on the Company's website, linked here.

The Phase 1 portion of the SANRECO study has enrolled 21 patients and is ongoing until all patients complete follow-up which is expected to conclude in February 2025. Silence also announced today the first subject has been dosed in the Phase 2 portion of the SANRECO Study. Divesiran has FDA Fast Track and Orphan Drug designation in the US.

SANRECO Phase 1 Study Design

The Phase 1 portion of SANRECO is a 34-week, open-label study evaluating divesiran (3 mg/kg, 6 mg/kg and 9 mg/kg) administered subcutaneously every 6 weeks for four doses, with a 16-week follow-up period following the date of the last administered dose in 21 PV patients. Key inclusion criteria include a PV diagnosis and a history of requiring at least three phlebotomies in the last six months or five in the last year prior to screening. Patients are allowed to be on stable doses of cytoreductive agents. Given the exploratory nature of this Phase 1 study, both well-controlled patients—defined as those with HCT levels at 45% or less – as well as those with HCT levels greater than 45% at baseline on current standard of care treatment were enrolled.

About PV

PV is a rare, myeloproliferative neoplasm – a type of blood cancer—characterized by the excessive production of red blood cells, often resulting in elevated hematocrit levels. Elevated hematocrit above 45-percent is associated with a four-times higher rate of death from cardiovascular or thrombotic events. PV is associated with a range of burdensome symptoms including fatigue, cognitive disturbance and pruritis and additionally, longer term can transform to myelofibrosis and Acute Myeloid Leukemia. The aim of treatment is to maintain hematocrit less than 45%, a level that is associated with a reduced incidence of thrombosis and CV-associated death. The current standard of care includes repeated phlebotomies to reduce hematocrit and/or cytoreductive agents to reduce red blood cell production. There are currently no approved therapies that specifically target red blood cells and hematocrit.

About Divesiran

Divesiran is Silence's wholly owned siRNA product candidate developed from its proprietary mRNAi GOLD ™ platform that "silences" *TMPRSS6* expressed almost exclusively in the liver. *TMPRSS6* is a negative regulator of hepcidin, the body's master regulator of iron metabolism including its absorption, distribution, and storage. By silencing *TMPRSS6* in PV patients, divesiran aims to increase hepcidin production and release by liver hepatocytes, leading to the restriction of iron to the bone marrow and, thus, reducing the excessive production of red blood cells, a process dependent on availability of iron.

About Silence Therapeutics

Silence Therapeutics is a global clinical stage biotechnology company committed to transforming people's lives by silencing diseases through precision engineered medicines created with proprietary siRNA (short interfering RNA) technology. Silence leverages its mRNAi GOLD™ platform to create innovative siRNAs designed to precisely target and silence disease associated genes in the liver, which represents a substantial opportunity. Silence focuses on areas of high unmet medical need with programs advancing in cardiovascular disease, hematology and rare diseases. Silence also maintains research and development collaborations with AstraZeneca and Hansoh Pharma, among others. For more information, please visit https://www.silence-therapeutics.com/.

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the safe-harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements may be identified by words such as "aims," "anticipates," "believes," "could," "estimates," "expects," "forecasts," "goal," "intends," "may," "plans," "possible," "potential," "seeks," "will" and variations of these words or similar expressions that are intended to identify forward-looking statements, although not all forward-looking statements contain these words. All statements in this press release, other than statements of historical facts, are forward-looking statements. Forward-looking statements in this press release include, but are not limited to, statements regarding: the Company's clinical development activities and timelines for divesiran, including the continued advancement of Phase 2 clinical trial; expected clinical benefits, efficacy and safety of divesiran and the potential to produce clinically meaningful outcomes in PV patients; and the Company's business strategy and plans to focus on the development of divesiran as the first-in-class siRNA product candidate for treatment of PV. Any forward-looking statements are based on management's current expectations and beliefs of future events and are subject to a number of risks and uncertainties that could cause actual events or results to differ materially and adversely from those set forth in or implied by such forward-looking statements, many of which are beyond the Company's control. These risks and uncertainties include, but are not limited to: the impact of worsening macroeconomic conditions, including the conflict in Ukraine and the conflict between Israel and Hamas, heightened inflation and uncertain credit and financial markets, on the Company's business, clinical trials and financial position; the risk that success in preclinical testing and earlier clinical trials is not replicated in later clinical trials; the delay of any current or planned clinical trials, whether due to patient enrollment delays or otherwise; the Company's ability to successfully demonstrate the safety and efficacy of its product candidates and gain approval of its product candidates on a timely basis, if at all; unexpected safety or efficacy data observed during preclinical studies or clinical trials; clinical trial site activation or enrollment rates that are lower than expected; the Company's ability to realize the benefits of its collaborations and license agreements; changes in expected or existing competition; changes in the regulatory environment; the uncertainties and timing of the regulatory approval process; and unexpected litigation or other disputes. These and other risks and uncertainties are identified in the section titled "Risk Factors" in the Company's most recent Annual Report on Form 20-F for the year ended December 31, 2023 filed with the U.S. Securities and Exchange Commission (the "SEC") on March 13, 2024 as updated by the section titled "Risk Factors" in the Company's Report on Form 6-K filed with the SEC on November 14, 2024, as well as its other documents subsequently filed with or furnished to the SEC. The Company expressly disclaims any obligation to update any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise, except as otherwise required by law.

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