

Silence Therapeutics Presents Additional Phase 1 Data Highlighting Promise of Divesiran as the Potential First-in-Class siRNA Treatment for Polycythemia Vera

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Updated Phase 1 Data Presented at EHA 2025 Annual Meeting Reinforce Safety Profile, Efficacy Data and Dosing

Convenience of Divesiran

Company Also Announces SANRECO Phase 2 Study Has Exceeded 50% Enrollment - On-track for Full Enrollment by Year-Fnd 2025

LONDON--(BUSINESS WIRE)-- Silence Therapeutics plc ("Silence" or the "Company") (Nasdaq: SLN), a global clinical-stage company developing novel siRNA (short interfering RNA) therapies, today presented additional data showcasing the SANRECO Phase 1 study of divesiran in patients with polycythemia vera (PV) at the European Hematology Association (EHA) 2025 Annual Meeting in Milan, Italy.

"The latest data presented at EHA today continue to demonstrate divesiran's potential to maintain rapid and durable control of hematocrit and essentially eliminate the need for phlebotomies in phlebotomy-dependent PV patients," said Marina Kremyanskaya, MD, PhD, Associate Professor of Medicine, Hematology and Medical Oncology, at the Icahn School of Medicine at Mount Sinai. "These early findings also suggest the potential for infrequent dosing and continue to support a favorable safety profile. I'm very encouraged by the consistency of the Phase 1 dataset and look forward to further development."

"Divesiran continues to demonstrate a very compelling profile as the first-in-class siRNA for PV," said Craig Tooman, President and Chief Executive Officer at Silence Therapeutics. "We are extremely encouraged by the support we are garnering from the physician community and that's reflected in the positive momentum we're seeing in the

SANRECO Phase 2 study. The Phase 2 study is over 50-percent enrolled, and we remain on-track to complete patient enrollment by the end of this year."

Summary of Updated SANRECO Phase 1 Study Results

- Results included 21 phlebotomy-dependent PV patients with a combined history of 79 phlebotomies prior to
 dosing. Therapeutic phlebotomies were essentially eliminated and mean hematocrit (HCT) levels were
 lowered and maintained to ≤ 45% for all cohorts regardless of baseline levels.
- Divesiran increased hepcidin and ferritin, resulting in elevation of iron body content and improved iron deficiency.
- Divesiran demonstrated similar results in all patient groups, independent of baseline risk or prior and concurrent therapy.
- White blood cells were not altered over the time-course of the study.
- Platelets increased, reaching a plateau with no dose dependent effect.
- Divesiran was well tolerated with no dose-limiting toxicities.

SANRECO Phase 1 Study Design

The Phase 1 portion of SANRECO was 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 included 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 were 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.

SANRECO Phase 2 Study Design

The Phase 2 portion of SANRECO is now enrolling PV patients and is a randomized, double-blind study evaluating two different divesiran regimens versus placebo. Key inclusion criteria include a PV diagnosis and a history of requiring at least three phlebotomies in the last seven months or five in the last year prior to dosing. Patients are allowed to be on stable doses of cytoreductive agents. Patients must have HCT levels less than 45% prior to dosing. For more information, please click here.

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 pruritus 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. Divesiran is currently in Phase 2 development for PV and has FDA Fast Track and Orphan Drug designations for PV.

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. For more information, please visit https://www.silence-therapeutics.com/.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. In some cases, you can identify forward-looking statements by terminology such as "aim," "anticipate," "assume," "believe," "contemplate," "continue," "could," "design," "due," "estimate," "expect," "goal," "intend," "may," "objective," "plan," "positioned," "potential," "predict," "seek," "should," "target," "will," "would" and other similar expressions that are predictions of or indicate future events and future trends, or the negative of these terms or other comparable terminology. All statements other than statements of historical facts contained in this press release are forward-looking statements. These forward-looking statements include, but are not limited to, statements about: continued clinical development of divesiran including the proposed SANRECO Phase 2 clinical activities and timelines. Forward-looking statements are not guarantees of future performance and are subject to risks and uncertainties that could cause actual results and events to differ materially from those anticipated, including, but not limited to, risks and uncertainties related to: the company's history of net operating losses; the company's ability to obtain necessary capital to fund its

clinical programs; the early stages of clinical development of the company's product candidates; the company's ability to obtain regulatory approval of and successfully commercialize its product candidates; any undesirable side effects or other properties of the company's product candidates; the company's reliance on third-party suppliers and manufacturers; the outcomes of any future collaboration agreements; and the company's ability to adequately maintain intellectual property rights for its product candidates. These and other risks are described in greater detail under the section titled "Risk Factors" contained in the company's Annual Report on Form 10-K and Quarterly Reports on Form 10-Q and the company's other filings with the SEC. Any forward-looking statements that the Company makes in this press release are made pursuant to the Private Securities Litigation Reform Act of 1995, as amended, and speak only as of the date of this press release. Except as required by law, the company undertakes no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

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