NEWS RELEASE

Silence Therapeutics - Silence to present SL124 data at EHA

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Silence Therapeutics to Present Data Highlighting Broad Therapeutic Potential for SLN124 at the European Hematology Association (EHA) 2021 Virtual Congress

- ***Preclinical data at EHA support recently reported positive topline clinical data for SLN124 in healthy volunteers***
- ***SLN124 is being evaluated in the ongoing GEMINI II phase 1 study in patients with thalassemia and myelodysplastic syndrome***

7 June 2021

LONDON, Silence Therapeutics plc, AIM:SLN and Nasdaq: SLN ("Silence" or "the Company"), a leader in the discovery, development and delivery of novel short interfering ribonucleic acid (siRNA) therapeutics for the treatment of diseases with significant unmet medical need, today announced that it will present data showing the potential for SLN124 to address a range of hematological diseases by targeting the liver-expressed gene TMPRSS6 during two poster sessions at the European Hematology Association (EHA) Virtual Congress to be held on June 9-17, 2021.

The presentations include a preclinical safety assessment of SLN124 which will show data that are consistent with recent positive topline clinical data from the GEMINI phase 1 study of SLN124 in healthy volunteers announced last month (press release **linked here**). SLN124 is being evaluated in the ongoing GEMINI II phase 1 study in patients with thalassemia and myelodysplastic syndrome. A second poster will present encouraging preclinical evidence that using siRNA to target TMPRSS6 could be a viable therapeutic avenue for treatment of the rare blood disorder, polycythaemia vera (PV).

E-posters will be available for registered attendees through the EHA Virtual Congress platform starting Friday, June 11, 09:00 CEST.

Details on the presentations are as follows:

Title: Non-clinical safety of SLN124, a GalNAc conjugated 19-mer double stranded siRNA targeting TMPRSS6 facilitating evaluation in clinical studies

Abstract #: EP846 (**link here**)

Session Topic: Iron metabolism, deficiency and overload

Title: Anti-TMPRSS6 RNAi Therapy as a Novel Treatment Option for Polycythaemia Vera

Abstract #: EP1057 (**link here**)

Session Topic: Myeloproliferative neoplasms - Biology & Translational Research

Enquiries:

Silence Therapeutics plc Tel: +1 (646) 637-3208
Gem Hopkins, Head of IR and Corporate Communications
ir@silence-therapeutics.com

Investec Bank plc (Nominated Adviser and Broker) Tel: +44 (0) 20 7597 5970
Daniel Adams/Gary Clarence

European IR Tel: +44 (0) 20 3709 5700
Consilium Strategic Communications
Mary-Jane Elliott/ Angela Gray / Chris Welsh
silencetherapeutics@consilium-comms.com

About SLN124

SLN124 is a gene 'silencing' therapy - one that is designed to temporarily block a specific gene's message that would otherwise trigger an unwanted effect. In this case, SLN124 aims to temporarily 'silence' *TMPRSS6*, a gene that prevents the liver from producing a particular hormone that controls iron levels in the body - hepcidin. As hepcidin increases, it is hoped that iron levels in the blood will decrease, which could in turn allow more healthy red blood cells to be produced, thereby improving anemia.

In preclinical studies, SLN124 showed a strong safety profile and positive effects on improving levels of red blood cells and reducing harmful iron levels. Data from the recently completed GEMINI phase 1 study of SLN124 in healthy volunteers demonstrated SLN124 was safe and effective in reducing plasma iron levels and had a long duration of action. These data support the ongoing GEMINI II phase 1

study of SLN124 in people with thalassemia or myelodysplastic syndrome (MDS), whose bodies produce fewer healthy red blood cells than normal and who can store too much iron in their bodies. For more information on the GEMINI II study, please **click here**.

About Silence Therapeutics

Silence Therapeutics is developing a new generation of medicines by harnessing the body's natural mechanism of RNA interference, or RNAi, to inhibit the expression of specific target genes thought to play a role in the pathology of diseases with significant unmet need. Silence's proprietary mRNAi GOLD™ platform can be used to create siRNAs (short interfering RNAs) that precisely target and silence disease-associated genes in the liver, which represents a substantial opportunity. Silence's wholly owned product candidates include SLN360 designed to address the high and prevalent unmet medical need in reducing cardiovascular risk in people born with high levels of lipoprotein(a) and SLN124 designed to address iron-loading anemia conditions. Silence also maintains ongoing research and development collaborations with AstraZeneca, Mallinckrodt Pharmaceuticals, and Takeda, among others. For more information, please visit **https://www.silence-therapeutics.com/**.

Forward-Looking Statements

Certain statements made in this announcement are forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995 and other securities laws, including with respect to the Company's clinical and commercial prospects and the anticipated timing of data reports from the Company's clinical trials. These forward-looking statements are not historical facts but rather are based on the Company's current expectations, estimates, and projections about its industry; its beliefs; and assumptions. Words such as 'anticipates,' 'expects,' 'intends,' 'plans,' 'believes,' 'seeks,' 'estimates,' and similar expressions are intended to identify forward-looking statements. These statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties, and other factors, some of which are beyond the Company's control, are difficult to predict, and could cause actual results to differ materially from those expressed or forecasted in the forward-looking statements, including those risks identified in the Company's most recent Admission Document and its amended Annual Report on Form 20-F filed with the

U.S. Securities and Exchange Commission on April 29, 2021. The Company cautions security holders and prospective security holders not to place undue reliance on these forward-looking statements, which reflect the view of the Company only as of the date of this announcement. The forward-looking statements made in this announcement relate only to events as of the date on which the statements are made. The Company will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances, or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.

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