

Silence Therapeutics Announces Publication in the Journal of the American Medical Association Highlighting Results From SLN360 Phase 1 Study in Healthy Adults With High Lipoprotein(a)

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- Results were simultaneously presented today in a late breaker at the American College of Cardiology's 71st Annual Scientific Session (ACC.22) in Washington, D.C.

LONDON--(BUSINESS WIRE)-- Silence Therapeutics plc, 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 publication of results from the phase 1 APOLLO trial of SLN360, an siRNA targeting lipoprotein(a) ("Lp(a)"), in the latest issue of the Journal of the American Medical Association (JAMA), linked here.

Published by the American Medical Association (AMA), JAMA is the most widely circulated medical journal in the world, with over 55 million article views and downloads annually, and is among the most frequently cited medical and science journals.

The paper, authored by senior medical and scientific experts from both Silence and leading cardiology centers, showed that SLN360 reduced blood levels of Lp(a), a key genetic risk factor for heart disease, by up to 98% in healthy adults with elevated Lp(a).

The results were simultaneously presented today in a late breaker at the American College of Cardiology's 71st Annual Scientific Session & Expo (ACC.22) in Washington, D.C.

About SLN360

Silence's wholly owned lead product candidate, SLN360, 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, it aims to 'silence' LPA, a gene that tells the body to make a specific protein that is only found in Lp(a). By silencing LPA, the levels of Lp(a) are lowered, which in turn is expected to lower the risk of heart diseases, heart attacks and strokes.

SLN360 is being studied in the APOLLO clinical trial program. For more information about the APOLLO study, please click here.

About Lipoprotein(a)

Lipoprotein(a), known as Lp(a) for short, is a particle made by the liver, which consists of cholesterol, fats and proteins. Most people have some Lp(a) in their body, but about 1 in 5 people have high levels of Lp(a), because of a specific gene variation in their DNA. Most people are unaware if they have elevated Lp(a).

People living with elevated Lp(a) have a higher risk of developing early heart disease, heart attacks and strokes. Most standard cholesterol tests do not currently include screening for Lp(a). Current medicines that are used to lower other lipid levels in the blood do not have a meaningful effect on Lp(a) and are less effective overall in people with high levels of Lp(a).

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 rare hematological diseases. Silence also maintains ongoing research and development collaborations with AstraZeneca, Mallinckrodt Pharmaceuticals, and Hansoh Pharma, 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, regulatory approvals of the Company's product candidates, the initiation or completion of the Company's clinical trials and the anticipated timing or outcomes 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 assumptions, beliefs, expectations, estimates and projections about its industry. 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 Annual Report on Form 20-F filed with the U.S. Securities and Exchange Commission (the "SEC") on March 17, 2022. 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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