

FOR IMMEDIATE RELEASE

Silence Therapeutics signs collaboration with Mirna Therapeutics to evaluate delivery of novel microRNA therapeutics

-- Collaboration to investigate potential application of Silence's novel AtuPLEX™ and DBTC delivery technologies in the development of novel microRNA therapeutics targeting cancer --

London, UK October 24, 2011 –Silence Therapeutics plc (AIM: SLN) (“Silence”), a leading RNA interference (RNAi) therapeutics company, today announced that it has entered into an agreement with Mirna Therapeutics Inc. (“Mirna”), a biopharmaceutical company pioneering microRNA-based therapeutics for cancer, to assess the delivery capabilities of Silence’s proprietary AtuPLEX™ and DBTC delivery systems for Mirna’s novel microRNAs.

Under the terms of the agreement, Mirna will provide Silence with specific miRNA sequences, which Silence will formulate with its AtuPLEX™ and DBTC delivery systems in order to develop multiple candidate drugs. Mirna will undertake in vitro and in vivo studies of the candidate drugs developed under the agreement and select lead candidates for further evaluation. Financial terms of the deal were not disclosed.

Thomas Christély, Chief Executive Officer of Silence Therapeutics, said: *“We are delighted to be collaborating with Mirna. This is our second collaboration exploring the use of Silence’s delivery technologies to deliver microRNAs. However, it is Silence’s first collaboration involving our new DBTC liver delivery system. Whilst internally we remain focused on the delivery of our siRNA therapies, we continue to look to broaden the potential value of our delivery systems by partnering them with other companies for use in multiple applications. Functional delivery of effective doses into target cells is one of the greatest challenges facing most nucleic acid therapies. With our delivery systems AtuPLEX™, DACC and DBTC, Silence has an increasing range of delivery options to help overcome these challenges.”*

Paul Lammers, MD, President and Chief Executive Officer of miRNA Therapeutics, said: *“We are very interested to be working with Silence Therapeutics on the delivery of our miRNAs, as Silence has clearly been shown to be at the forefront of efficient and safe delivery of siRNAs and miRNAs, a process critical to the ultimate success of what promises to be a new and exciting class of targeted cancer therapeutics. Mirna has developed a strong intellectual property position in the therapeutic use of miRNAs in cancer, and has established a broad pipeline of key tumor suppressor miRNAs as potential new targeted therapeutic candidates against both solid and haematological cancers. An efficient delivery technology that provides for systemic delivery of therapeutically effective dose-levels of these miRNAs to their intended targets is a key element in their potential success in the clinic.”*

Silence’s proprietary lipid delivery technology AtuPLEX™ has demonstrated the broad systemic delivery to the vascular endothelium. Formulations generated with the AtuPLEX™ technology can be lyophilized (freeze dried) significantly improving stability, shipping and handling.

Silence is currently conducting a Phase I trial with Atu027 which is based on AtuPLEX™ in patients with advanced solid cancer. Interim data analysis from this trial were presented at the 2011 American Society of Clinical Oncology conference and showed that Atu027 is safe

and well tolerated and provided broad support for AtuPLEX™ as an effective siRNA delivery technology with the potential to overcome the recognized delivery challenges currently associated with RNAi therapeutics.

DBTC is the latest delivery system developed by scientists at Silence and allows functional targeted delivery to the liver. Unlike Silence’s established delivery technologies, DBTC is a novel lipid-based formulation that functionally delivers to liver endothelial cells, hepatocytes and to other cell types of the liver. As with AtuPLEX™, DBTC can be lyophilized.

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For further information, please contact:

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Notes for editors

About Silence Therapeutics plc (www.silence-therapeutics.com)

Silence Therapeutics plc (AIM: SLN) is a leading biotechnology company dedicated to the discovery, development and delivery of targeted, systemic RNA interference (RNAi) therapeutics for the treatment of serious diseases. Silence offers one of the most comprehensive short interfering RNA (siRNA) therapeutic platforms available today based on a strong intellectual property portfolio and large clinical safety database. Silence’s clinical siRNA product pipeline is one of the broadest in the industry. The Company possesses multiple proprietary siRNA delivery technology platforms including AtuPLEX™, DACC and DBTC. AtuPLEX enables the broad functional delivery of siRNA molecules to targeted diseased tissues and cells, while increasing their bioavailability and intracellular uptake. The DACC delivery system allows functional delivery of siRNA molecules selectively to the lung endothelium with a long duration of target mRNA and protein knock-down. The DBTC delivery system enables functional delivery of siRNA molecules selectively to liver cells including hepatocytes. Additionally, the Company has a platform of novel siRNA molecules based around its AtuRNAi chemical modification technology, which provides a number of advantages over conventional siRNA molecules. Silence’s unique RNAi assets also include structural features for RNAi molecules and specific design rules for increased potency and reduced off-target effects of siRNA sequences.

The Company’s lead internal drug candidate is Atu027, a liposomal formulation in clinical development for systemic cancer indications and one of the most clinically advanced RNAi therapeutic candidates in the area of oncology. Atu027 incorporates two of the Company’s

technologies, AtuRNAi and AtuPLEX™. Silence is currently conducting an open-label, single-centre, dose-escalation Phase I study with Atu027 in patients with advanced solid tumors involving single, as well as repeated, intravenous administration. Encouraging interim safety and pharmacokinetic data were presented at the American Society of Clinical Oncology Annual Meeting in June 2011. The study is expected to be completed in the first half of 2012.

The Company's RNAi therapeutic platform has received key validation through multiple partnerships with pharmaceutical companies including AstraZeneca, Dainippon Sumitomo, Pfizer/Quark, and Novartis/Quark. Silence is actively pursuing the establishment of additional partnerships. Silence Therapeutics has operations in both Berlin and London.

About Mirna Therapeutics Inc. (www.mirnarx.com)

Mirna Therapeutics is a biotechnology company focused on the development and commercialization of microRNA (miRNA) therapeutics. The Company has a substantial body of intellectual property around miRNAs developed by its own scientists as well as in-licensed from other institutions. Mirna's IP portfolio contains >300 miRNAs with applications in oncology and other diseases. Oncology-directed miRNAs include those that are key tumor suppressors in cancer, such as miR-34 and let-7 that have proven to block tumor growth in a number of different pre-clinical animal studies. The Company, founded in 2007, is located in Austin, Texas.

About MicroRNAs (miRNAs)

miRNAs are approximately 20-25 nucleotides long and affect gene expression by interacting with messenger RNAs. Unlike siRNAs, miRNAs are encoded in the human genome and are used as natural regulators of global gene expression. More than 1,400 miRNAs are encoded in the human genome and comprise approximately 2% of all mammalian genes. Since each miRNA appears to regulate the expression of tens to hundreds of different genes, miRNAs can function as "master-switches," efficiently regulating and coordinating multiple cellular pathways and processes. By coordinating the expression of multiple genes, miRNAs are responsible for guiding proper embryonic development, immunity, inflammation, as well as cellular growth and proliferation. Misregulation of miRNAs appears to play a fundamental role in many cancers and replacement of down regulated miRNAs in tumor cells results in a positive therapeutic response

Forward-Looking Statements

This press release includes forward-looking statements that are subject to risks, uncertainties and other factors. These risks and uncertainties could cause actual results to differ materially from those referred to in the forward-looking statements. All forward-looking statements are based on information currently available to Silence Therapeutics and Silence Therapeutics assumes no obligation to update any such forward-looking statements.