Seelos Therapeutics Receives a Research and Development Grant from The Michael J. Fox Foundation for Parkinson's Research for SLS-004

SLS-004 Utilizes CRISPR-dCas9 to Target the SNCA Gene Responsible for the Expression of Alpha-Synuclein

NEW YORK, Aug. 24, 2022 /PRNewswire/ -- Seelos Therapeutics, Inc. (Nasdaq: SEEL), a clinical-stage biopharmaceutical company focused on the development of therapies for central nervous system disorders and rare diseases, today announced it was selected to receive a grant from The Michael J. Fox Foundation for Parkinson's Research to advance preclinical research and development of its gene therapy delivered SLS-004 program.

"The selection of SLS-004 to receive grant funding from The Michael J. Fox Foundation is a strong validation of our program and should significantly raise the profile of our program," said Raj Mehra, Ph.D., Chairman and CEO of Seelos. "We look forward to sharing additional data from our ongoing preclinical studies later this year."

Parkinson's disease (PD) is the second most common neurodegenerative disorder in the world and currently, there is no effective treatment to prevent PD or to halt its progression. The SNCA gene has been implicated as a highly significant genetic risk factor for PD. In addition, accumulating evidence has suggested that elevated levels of alpha-synuclein (α-synuclein) are causative in the pathogenesis of PD. Patients with impaired regulation of the SNCA gene show as high as 200% expression of α-synuclein protein. A reduction of 25%-50% in SNCA mRNA and protein expression should be sufficient to restore normal physiological levels of SNCA.

In July 2021, Seelos announced positive in vivo data demonstrating down-regulation of SNCA mRNA and protein expression from a study of SLS-004 in an in-vivo rodent model utilizing CRISPR-dCas9 gene therapy technology. A single dose of SLS-004 produced a therapeutically desirable 27% reduction in SNCA mRNA and a 40% reduction in SNCA protein expression.

Additionally in June 2022, Seelos released data demonstrating a statistically significant ($p<0.01$) 19% downregulation of mRNA and a ~40% reduction of α-synuclein in an in vitro study of SLS-004 in dementia with Lewy bodies (DLB).

About The Michael J. Fox Foundation

As the world's largest nonprofit funder of Parkinson's research, The Michael J. Fox Foundation is dedicated to accelerating a cure for Parkinson's disease and improved therapies for those living with the condition today. The Foundation pursues its goals through an aggressively funded, highly targeted research program coupled with active global engagement of scientists, Parkinson's patients, business leaders, clinical trial participants, donors and volunteers. In addition to funding $1.5 billion in research to date, the Foundation has fundamentally altered the trajectory of progress toward a cure. Operating at the hub of worldwide Parkinson's research, the Foundation forges groundbreaking collaborations with industry leaders, academic scientists and government research funders; creates a robust open-access data set and biosample library to speed scientific breakthroughs and treatment with its landmark clinical study, The Parkinson's Progression Markers Initiative (PPMI); increases the flow of participants into Parkinson's disease clinical trials with its online tool, Fox Trial Finder; promotes Parkinson's awareness through high-profile advocacy, events and outreach; and coordinates the grassroots involvement of thousands of Team Fox members around the world. For more information, visit us at **www.michaeljfox.org**, **Facebook**, **Twitter**, **LinkedIn**.

About SLS-004

SLS-004 is a novel epigenome-editing approach to modulate expression of SNCA gene mediated by modification of DNA-methylation. SLS-004 utilizes an all-in-one lentiviral vector harboring dCas9-DNA methyltransferase 3A (DNMT3A) to enrich DNA-methylation within CpGs island at the SNCA intron 1 region. The system resulted in a precise and fine-tuned downregulation (30%) of SNCA overexpression in hiPSC-derived dopaminergic neurons from a PD patient with the triplication of the SNCA locus (SNCA-Tri). Most importantly, the reduction of SNCA expression mediated by the developed system was sufficient to ameliorate disease related cellular phenotypes. The in vitro studies achieved several key milestones, including the establishment that DNA hypermethylation at SNCA intron 1 allows an effective and sufficient tight downregulation of SNCA expression levels and suggests the potential of this target sequence combined with the CRISPR-dCas9 technology as a novel epigenetic-based therapeutic approach for PD.

Forward Looking Statements

Statements made in this press release, which are not historical in nature, constitute forward-looking statements for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. These statements include, among others, those regarding the potential for the grant funding to significantly raise the profile of the SLS-004 program, the Company's expectations to share additional data from its ongoing preclinical studies of SLS-004 later this year, the safety and efficacy of SLS-004 and its ability to downregulate or reduce SNCA mRNA and SNCA protein expression. These statements are based on Seelos' current expectations and beliefs and are subject to a number of risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Risks associated with Seelos' business include, but are not limited to, the risk of not successfully executing its preclinical and clinical studies and not gaining marketing approvals for its product candidates, the risk that prior clinical results may not be replicated in future studies and trials (including the risk that the results from the preclinical study of SLS-004 are not replicated or are materially different from the results of future studies and trials), the risks that clinical study results may not meet any or all endpoints of a clinical study and that any data generated from such studies may not support a regulatory submission or approval, the risks associated with the implementation of Seelos' business strategy, the risks related to raising capital to fund its development plans and ongoing operations, risks related to Seelos' current stock price, risks related to the global impact of COVID-19, as well as other factors expressed in Seelos' periodic filings with the U.S. Securities and Exchange Commission, including its most recent Annual Report on Form 10-K and

Quarterly Reports on Form 10-Q. Although we believe that the expectations reflected in our forward-looking statements are reasonable, we do not know whether our expectations will prove correct. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof, even if subsequently made available by us on our website or otherwise. We do not undertake any obligation to update, amend or clarify these forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

Contact Information:

Anthony Marciano
Chief Communications Officer
Seelos Therapeutics, Inc. (Nasdaq: SEEL)
300 Park Avenue
New York, NY 10022
(646) 293-2136
anthony.marciano@seelostx.com
https://seelostherapeutics.com/
https://twitter.com/seelostx
https://www.linkedin.com/company/seelos

Mike Moyer
Managing Director
LifeSci Advisors, LLC
250 West 55th St., Suite 3401
New York, NY 10019
(617) 308-4306
mmoyer@lifesciadvisors.com

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8/24/2022 8:00:00 AM