

Press release

Clinical trial shows metabolic activators improve cognitive function in Alzheimer's disease patients

Alzheimer's disease (AD) is the most common cause of dementia, a general term for memory loss and other cognitive disabilities significant enough to interfere with daily life. A growing body of evidence suggests that impaired brain energy metabolism and mitochondrial dysfunction in AD may contribute to cognitive decline. A Phase 2 study published Today in MedRxiv finds administration of combined metabolic activators in moderate-to-severe AD patients improves cognitive function.

STOCKHOLM, July 15, 2021: ScandiBio Therapeutics, a biotechnology company originating from the Swedish national infrastructure Science for Life Laboratory today announces that patients with moderate-to-severe AD experienced a significant improvement in cognitive function when receiving a combined oral metabolic activator (CMAs), consisting of L-serine, N-acetyl-L-cysteine (NAC), nicotinamide riboside (NR), and L-carnitine tartrate, compared to placebo in a multi-center Phase 2 clinical study. Meanwhile, the patients receiving CMAs also experienced a significant improvement in mitochondrial function based on proteomics and metabolomics data.

Results from the study "Combined Metabolic Activators Improves Cognitive Functions in Alzheimer's Disease" were published today on the open-access server medRxiv.org <https://www.medrxiv.org/content/10.1101/2021.07.14.21260511v1>. The research was conducted in partnership with ChromaDex (California, USA) (NASDAQ:CDXC) which provided one of the four ingredients (nicotinamide riboside or Niagen®) through the ChromaDex External Research Program (CERP). The phase 2 clinical study was led by Dr. Adil Mardinoglu and took place at the two internationally recognized university hospitals, Alanya Alaaddin Keykubat University and Istanbul Medipol University.

In the study, researchers from Science for Life Laboratory (SciLifeLab) at KTH Royal Institute of Technology in Stockholm first analyzed more than 600 AD patients, the results of which supported an essential role of mitochondrial dysfunction in AD development. Subsequently, the Swedish-based biotech company ScandiBio Therapeutics, tested the CMA formulation in a preclinical model and demonstrated that it could improve AD and associated functions.

Finally, the company designed a randomized, double-blinded, placebo-controlled human phase 2 clinical study and showed that administration of CMAs improves cognitive function in AD patients. Based on data-driven modeling and systems biology, they showed that oral

administration of a mixture of metabolic activators has a profound effect on cognitive function after only a few months of treatment. The effect was further supported with a comprehensive analysis of protein and metabolites in the plasma of the patients using a multi-omics analytical platform.

“This research builds upon a broader understanding of the importance of mitochondrial health in response to metabolic stress. Given the scientific understanding that people with various metabolic conditions have a greater risk of poor outcomes, it is important to understand the potential benefit of mitochondrial health in aiding AD patients,” said principal study investigator Prof. Mardinoglu. “The insights provided by this data warrant further clinical study of the CMAs to improve cognitive function in AD. We look forward to the initiation of a Phase 3 clinical study in the near future.”

For additional information see the open-access publication:

<https://www.medrxiv.org/content/10.1101/2021.07.14.21260511v1>

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About

ScandiBio Therapeutics, Stockholm, Sweden

ScandiBio Therapeutics is a biotechnology company founded by researchers from the KTH Royal Institute of Technology, Karolinska Institutet, and Sahlgrenska Academy in Sweden. The science originates from research conducted at the Science for Life Laboratory in Stockholm (reference Professor Adil Mardinoglu and Professor Mathias Uhlén) together with researchers at the Sahlgrenska Academy in Göteborg (reference Professor Jan Borén). A platform for AI-based modeling of biology and medicine has been developed to allow the potential treatment of diseases with metabolic dysfunction. The company has developed drug candidates consisting of a combination of several metabolic activators aimed to improve for patients with mitochondrial dysfunction. A large number of human clinical trials have been initiated using one of these drug candidates to treat several diseases with metabolic problems, including COVID-19, Alzheimer’s Disease, Parkinson’s Disease, non-alcoholic fatty liver disease (NAFLD) and, gout.

For more information, see: www.scandibio.com

Science for Life Laboratory, Stockholm, Sweden

Science for Life Laboratory, SciLifeLab, is a research institution for the advancement of molecular biosciences in Sweden. SciLifeLab started out in 2010 as a joint effort between four universities: Karolinska Institutet, KTH Royal Institute of Technology, Stockholm University, and Uppsala University. The center provides access to a variety of advanced infrastructures in life science for thousands of researchers creating a unique environment for health and environmental research at the highest level.

For more information, see: www.scilifelab.se

KTH Royal Institute of Technology, Stockholm, Sweden

Since its founding in 1827, the KTH Royal Institute of Technology in Stockholm has grown to become one of Europe's leading technical and engineering universities, as well as a key center of intellectual talent and innovation. KTH is Sweden's largest technical research and learning institution and home to students, researchers, and faculty from around the world dedicated to advancing knowledge.

For more information, see: www.kth.se

Karolinska Institutet, Stockholm, Sweden

Karolinska Institutet is one of the world's leading medical universities. The vision is to advance knowledge about life and strive towards better health for all. As a university, KI is Sweden's single largest center of medical academic research and offers the country's widest range of medical courses and programs. Since 1901 the Nobel Assembly at Karolinska Institutet has selected the Nobel laureates in Physiology or Medicine.

For more information, see: ki.se

King's College London, UK

[King's College London](http://www.kcl.ac.uk) is one of the top 35 UK universities in the world and one of the top 10 in Europe (QS World University Rankings, 2020/21) and among the oldest in England. King's has more than 31,000 students (including more than 12,800 postgraduates) from some 150 countries worldwide, and some 8,500 staff. King's has an outstanding reputation for world-class teaching and cutting-edge research. In the 2014 Research Excellence Framework (REF), eighty-four percent of research at King's was deemed 'world-leading' or 'internationally excellent' (3* and 4*).

For more information, see: <https://www.kcl.ac.uk/>