

Metabolic Activators Therapy Improve Liver Fat in NAFLD Patients, study shows

Stockholm October 25, 2021. Published today in *Molecular Systems Biology*, a human clinical study showed that patients with nonalcoholic fatty liver disease (NAFLD) experienced a significant reduction in liver fat when receiving the combination of four metabolic activators aimed at improving the metabolic functions in the liver. The results of the study build on findings from preclinical data and human phase-1 clinical data.

NAFLD is the most common liver disorder worldwide affecting 25% of the world's population, including approximately 100 million Americans. It has been estimated that the economic burden only in the USA is more than USD 100 billion annually. There is great need to find therapeutic regimens for improving the life of individuals suffering from NAFLD.

The study was a randomized, placebo controlled, phase-2 clinical trial conducted by researchers at Science for Life Laboratory at KTH Royal Institute of Technology in Stockholm, in collaboration with the Sahlgrenska Academy at University of Gothenburg and Koc University Hospital (Turkey). The Combined Metabolic Activators (CMA) consisted of a mixture of nicotinamide riboside (NR), L-serine, N-acetyl-L-cysteine (NAC), and L-carnitine tartrate.

30 outpatients at Koc University Hospital, University of Health Sciences, Istanbul, Turkey, were randomly assigned on a 2:1 basis to receive the metabolic activators or placebo. Patients received the CMA or placebo once a day for 14 days followed by twice a day for 56 days. The patients were analyzed with regards to clinical variables, plasma metabolomics, inflammatory proteomics and oral/gut microbiome.

“Results from our recent clinical study show that intervention with metabolic activators significantly improves the liver fat content (10%) and significantly improve markers of liver function after 70 days of treatment. Furthermore, our data also showed that CMA therapy significantly reduces plasma levels of inflammatory biomarkers, indicating that CMA treatment attenuates hepatic inflammation,” says the study’s lead author, Dr Adil Mardinoglu, professor at KTH and King’s College and research fellow at Science for Life Laboratory.

The study was conducted in partnership with Stockholm based ScandiBio Therapeutics AB and California-based ChromaDex (NASDAQ:CDXC), which provided one of the four ingredients (nicotinamide riboside) through the ChromaDex External Research Program (CERP).

Read more: Zeybel et al (2021) “Combined Metabolic Activators Therapy Ameliorates Liver Fat in Nonalcoholic Fatty Liver Disease Patients” *Molecular Systems Biology*.

<https://www.embopress.org/doi/10.15252/msb.202110459>

Contact: Adil Mardinoglu
Professor of Systems Biology
adilm@scilifelab.se

Science for Life Laboratory (SciLifeLab)
KTH-Royal Institute of Technology
Stockholm, Sweden