SCOHIA PHARMA, Inc.

April 28, 2021

Presentation of new preclinical data of GLUT5 inhibitor at the Experimental Biology 2021: GLUT5 inhibition is a novel strategy to treat fructose-induced diseases

In a poster presentation in Experimental Biology 2021, researchers at SCOHIA PHARMA, Inc., identified S-700, a novel glucose transporter type 5 (GLUT5) inhibitor, and showed its therapeutic effects in preclinical models.

Presentation title

Identification of a novel small-molecule allosteric inhibitor of glucose transporter type 5 for treating fructose-induced diseases

Please click here to view the poster.

Fructose is a major sweetening agent found in natural foods. However, it is often used in processed foods in the modern diet, which not only increases the caloric content of foods, but also contributes to obesity, diabetes, and non-alcoholic fatty liver disease (NAFLD). Since fructose is absorbed into the body via GLUT5 in the intestinal tract, inhibition of GLUT5 may provide a therapeutic strategy to treat fructose-induced diseases. In this study, we identified S-700, an orally available, long-acting inhibitor of GLUT5, and reported its pharmacological activity. S-700 is a potent and selective inhibitor of GLUT5, and oral administration of S-700 showed sustained efficacy in inhibiting GLUT5 for longer than 24 hours in rats and monkeys. S-700 increased GLP-1[*1] secretion from the intestinal tract and alleviated fatty liver in a NAFLD rat model. Furthermore, S-700 completely prevented fructose-induced hypoglycemia in a hereditary fructose intolerance model[*2]. These results indicate that inhibition of GLUT5 by S-700 can be a potential therapeutic strategy for fructose-induced diseases.

[*1] GLP-1 is secreted from the intestinal tract, and its activity contributes to metabolic improvement.

[*2] Hereditary fructose intolerance is an inborn error of fructose metabolism caused by a deficiency of the enzyme aldolase B, which causes symptoms of hypoglycemia upon fructose ingestion.

Contact for inquiries: info@scohia.com