A G-Protein-Coupled Receptor may be a drug target for nonalcoholic fatty liver disease

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New research published in the January 2016 issue of *The FASEB Journal* suggests that the G-protein-coupled receptor 119 (GPR119) could be a viable treatment target for nonalcoholic fatty liver disease. This receptor has already been identified as a drug target for diabetes and obesity, and this report raises hopes that compounds that target GPR119 for diabetes or obesity might also work for non-alcoholic fatty liver disease.

"Many obese people in developed countries are also suffering from fatty liver or even nonalcoholic steatic hepatitis," said Keon Wook Kang, Ph.D., a researcher involved in the work from the College of Pharmacy and Research Institute of Pharmaceutical Sciences at Seoul National University in Seoul, Republic of Korea. "Our study will be helpful to find a potential drug to cure fatty liver and nonalcoholic steatic hepatitis."

To make the discovery, Kang and colleagues used two groups of mice. The first group was genetically altered to have no GPR119. The second group was genetically unmodified. When both set of mice were administered a high-fat diet for 12 weeks, all developed fatty livers. Administration of a ligand for the GPR119 receptor reduced hepatic lipid accumulation in the normal mice, but not those lacking the receptor.

"Effective treatments for non-alcoholic fatty liver disease are lacking, even as the disease becomes more prevalent," said Thoru Pederson, Ph.D., Editor-in-Chief of *The FASEB Journal*. "This research opens the door to the development of new treatments for this disease."

More information: J. W. Yang et al. GPR119: a promising target for nonalcoholic fatty liver disease, *The FASEB Journal* (2015). DOI: 10.1096/fj.15-273771

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