New therapeutic target for treating nonalcoholic steatohepatitis (NASH) and fatty liver disease

Technology #cu13175

Non-alcoholic steatohepatitis (NASH), also known as fatty liver disease, is a debilitating liver disease found in individuals with metabolic syndrome such as obesity or diabetes. If left untreated, NASH can result in cirrhosis, liver failure and liver cancer. This technology identified a potential therapeutic target, ILDR2, to treat NASH. This protein regulates hepatic lipid metabolism via as yet unspecified effect on lipoprotein homeostasis; ILDR2 also appears to play a role in mediating ER stress responses. Acute reduction in ILDR2 results in striking lipid (neutral lipids and cholesterol) accumulation in the liver. Conversely, overexpression of ILDR2 in obese models improves lipid levels in the liver. Therefore, ILDR2 is a potential candidate for pharmaceutical intervention for treating NASH and non-alcoholic fatty liver disease (NAFLD).

ILDR2 provides a new and different way of treating and preventing liver disease

Currently, the only available and marketed treatments for patients suffering from NASH are originally used for treating dyslipidemia and diabetes. Otherwise, the best treatment option is weight loss, a therapy that is difficult to sustain over time. ILDR2 offers a target for therapeutic development to tackle an underlying pathophysiology of the disease. This approach, especially when combined with the current treatments, has the potential of significantly reducing lipid accumulation in the liver.

The role of ILDR2 in NASH was demonstrated in vivo using viral knockdown and overexpression techniques.

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Applications:

• Pharmaceutical activators of ILDR2 may reduce lipid accumulation in the liver to treat NASH patients.
• ILDR2 alters lipoprotein metabolism and may be used to treat dyslipidemia and atherosclerosis.
• Characterization of ILDR2 suggests a role in preservation of beta cell mass, and control of body weight.

**Advantages:**

• Provides a target for NASH therapeutic development
• Provides a target for dyslipidemia therapeutic development

**Patent information:**

N/A

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**Related Publications:**


**Inventors**

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