

산겨릅나무로부터 추출된 HIMH0021의 알콜성·비알콜성 지방간염 질환에서의 약리학적 분석 및 지방간염 및 간섬유화 억제능 평가

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Pharmacological Analyses of HIMH0021 Extracted from *Acer Tegmentosum* and Efficacy Tests of Steatohepatitis and Hepatic Fibrosis in NASH/ASH

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Alcoholic and nonalcoholic steatohepatitis is a leading form of chronic liver disease with few biomarkers and treatment options currently available. A progressive disease of NAFLD may lead to fibrosis, cirrhosis, and hepatocellular carcinoma. Recently, we extracted HIMH0021, which is an active flavonoid component in the *Acer tegmentosum* extract, has been shown to protect against liver damage caused by hepatic dysfunction. Therefore, in this study, we aimed to investigate whether HIMH0021 could regulate steatohepatitis and liver fibrosis during alcoholic or nonalcoholic metabolic process. HIMH0021, which was isolated from the active methanol extract of *A. tegmentosum*, inhibited alcohol-induced steatosis and attenuated the serum levels of alanine aminotransferase (ALT) and aspartate aminotransferase (AST) during hepatocellular alcohol metabolism, both of which promote lipogenesis as well as liver inflammation. Treatment with HIMH0021 conferred protection against lipogenesis and liver injury, inhibited the expression of cytochrome P4502E1, and increased serum adiponectin levels in the mice subjected to chronic-plus-binge feeding. Furthermore, in hepatocytes, HIMH0021 activated fatty acid oxidation by activating pAMPK, which comprises pACC and CPT1a. These findings suggested that HIMH0021 could be used to target a TNF α -related pathway for treating patients with alcoholic hepatitis.

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