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Deficiency of the Mitochondrial NAD Kinase Causes Stress-induced hepatic steatosis in mice

Short title: MNADK prevents non-alcoholic fatty liver disease

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Abbreviations: AASS, α-aminoadipic acid semialdehyde synthase; AHF, atherogenic high-fat; ALT, alanine aminotransferase; AST, aspartate aminotransferase; CLAMS, the comprehensive lab animal monitoring system; CREBH, hepatocyte-specific cAMP-responsive element binding protein; DCFDA, 2',7'-dichlorofluorescin diacetate; DECR, 2,4 dienoyl-coA reductase; DHE, dihydroethidium; DHFR, dihydrofolate reductase; FAO, fatty acid oxidation; GSH, Reduced glutathione; GSSG, oxidized glutathione; KO, knockout; LC-MS/MS, liquid chromatography coupled with mass spectrometry; MNADK, mitochondrial NAD kinase, MTX, methotrexate; Mn-SOD, mitochondrial superoxide dismutase 2; NAD, nicotinamide adenine dinucleotide; NADP, nicotinamide adenine dinucleotide phosphate; NAFLD, nonalcoholic fatty liver disease; NASH, non-alcoholic steatohepatitis; NAC, N-acetyl-L-cysteine; NCD, normal chow diet; NEFA, non-esterified fatty acid; NR, nicotinamide riboside; PPARα, proliferator-activated receptor α; RER, respiratory exchange ratio; ROS, reactive oxygen species; SIRT, sirtuins.

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