Data Sheet (Cat.No.T211712)

TBPH

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	TBPH exacerbates liver steatosis, inflammation, and fibrosis in non-alcoholic steatohepatitis (NASH) mouse models. It induces phospholipid metabolism disorders, reducing cardiolipin (CL) and phosphatidylserine (PS) levels. TBPH impairs endoplasmic reticulum-mitochondria (ER-Mito) contact, leading to mitochondrial dysfunction. Additionally, TBPH causes lung injury through mitochondrial-derived ds-DNA-mediated inflammatory responses. TBPH is utilized to study the role of MFN2-mediated ER-Mito contact in lipid metabolism homeostasis.
Targets(IC50)	HSP,Mitochondrial Metabolism,Protease,Cytochromes P450,Interleukin,PERK,TNF,LDLR
In vitro	TBPH (5-50 μM, 48 hours) accelerates the progression of NASH by disrupting MFN2-regulated ER-Mito contacts in the NASH LO model. TBPH (0-20 μg/mL, 48 hours) decreases cell proliferation in TC-1 and BEAS-2B cells, induces oxidative stress, enhances lung tissue fibrosis, and prompts mitochondrial ds-DNA release in the lung, thereby activating c-GAS-STING.
In vivo	Administered orally at 20-200 mg/kg once daily for four weeks in mice, TBPH enhances liver lipid accumulation and disrupts metabolic functions in a methionine-choline deficient (MCD) diet-induced NASH model, accelerating liver inflammation and fibrosis progression. It disrupts phospholipid homeostasis and hepatocyte endoplasmic reticulum-mitochondria contacts, inducing mitochondrial dysfunction and endoplasmic reticulum stress. In mice on a normal diet (ND), TBPH at the same dosage does not alter liver morphology or liver-to-body weight ratio but still impairs endoplasmic reticulum-mitochondria contacts, leading to mitochondrial dysfunction and endoplasmic reticulum stress. Furthermore, in C57 mice, TBPH administered at 0-100 μg/mL daily results in oxidative damage to lung cells and triggers inflammatory responses in lung cells and tissues.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481