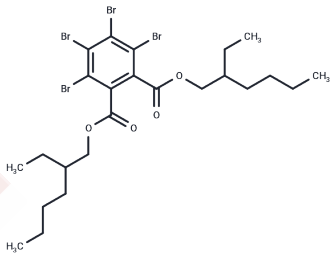
Data Sheet (Cat.No.T213546)

TargetMol

TBPH-1

Chemical Properties



CAS No. : 26040-51-7

Formula: C24H34Br4O4

Molecular Weight: 706.15

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 is a brominated flame retardant that exacerbates hepatic steatosis, inflammation, and fibrosis in non-alcoholic steatohepatitis (NASH) mouse models. It disrupts phospholipid metabolism, reducing levels of cardiolipin (CL) and phosphatidylserine (PS). TBPH impairs endoplasmic reticulum-mitochondria (ER-Mito) contact, leading to mitochondrial dysfunction. Additionally, TBPH induces lung injury through a mitochondrial-derived ds-DNA mediated inflammatory response. It is also used to investigate the role of MFN2-mediated ER-Mito contact in lipid metabolism homeostasis.
Targets(IC50)	HSP,Mitochondrial Metabolism,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. In doses of TBPH (0-20 μg/mL, 48 hours), it reduces cell proliferation in TC-1 and BEAS-2B cells, induces oxidative stress, increases lung tissue fibrosis, leads to the release of ds-DNA from lung mitochondria, and activates c-GAS-STING.
In vivo	TBPH, administered at 20-200 mg/kg via gavage once daily for 4 weeks, exacerbates hepatic lipid accumulation and metabolic dysfunction in an MCD diet-induced NASH mouse model. It accelerates liver inflammation and fibrosis, disrupts hepatic phospholipid homeostasis and ER-mitochondria contacts, inducing mitochondrial dysfunction and ER stress. In a normal diet (ND) mouse model, TBPH at the same dosage over 4 weeks does not alter liver morphology or liver-to-body weight ratio, but it impairs hepatocyte ER-mitochondria contact, leading to mitochondrial dysfunction and ER stress. Additionally, TBPH administered at 0-100 μg/mL via gavage daily for 4 weeks induces oxidative damage in lung cells of C57 mice and triggers inflammatory responses in lung cells and tissues.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4161 mL	7.0806 mL	14.1613 mL
5 mM	0.2832 mL	1.4161 mL	2.8323 mL
10 mM	0.1416 mL	0.7081 mL	1.4161 mL
50 mM	0.0283 mL	0.1416 mL	0.2832 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

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