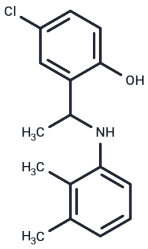
Data Sheet (Cat.No.T60503)

TargetMol

MFI8

Chemical Properties



CAS No. : 694488-83-0

Formula: C16H18ClNO

Molecular Weight: 275.77

Storage: Store at low temperature,Keep away from direct sunlight
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	MFI8 is a compound that regulates mitochondrial fission and can be used to study aging.
Targets(IC50)	Mitochondrial Metabolism
In vitro	At a concentration of 20 μM for a duration of 6 hours, MFI8 significantly reduces mitochondrial aspect ratio with an EC50 of 4.8 μM. It achieves this by inhibiting mitochondrial function through mitofusins, subsequently promoting mitochondrial fission [1]. MFI8 possesses functional groups that adhere to the pharmacophore model standards. It interacts with mitofusins, facilitating mitochondrial fission [1]. Binding to the HR2 domain of MFN2, MFI8 modulates MFN conformation and complexes, thereby altering mitochondrial function [1].In a concentration-responsive manner (0-20 μM; 6 hours), MFI8 increases caspase-3/7 activity, induces cytochrome c release, and reduces membrane potential in a mitotic protein-dependent manner. Additionally, the combination of MFI8 with BV6 SMAC, a mimic of the second mitochondrial-derived activator of caspases, induces DNA damage and cell death [1].

Solubility Information

Solubility	DMSO: 150 mg/mL (543.93 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 3.3 mg/mL (11.97 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6262 mL	18.1311 mL	36.2621 mL
5 mM	0.7252 mL	3.6262 mL	7.2524 mL
10 mM	0.3626 mL	1.8131 mL	3.6262 mL
50 mM	0.0725 mL	0.3626 mL	0.7252 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.

Reference

Zacharioudakis E, et al. Modulating mitofusins to control mitochondrial function and signaling. Nat Commun. 2022 Jul 7;13(1):3775.