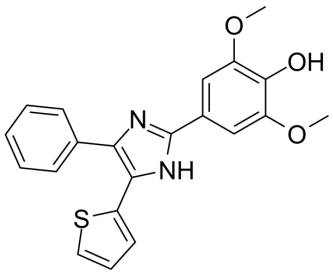
DPTIP

Cat. No.:	HY-131002
CAS No.:	351353-48-5
Molecular Formula:	$C_{21}H_{18}N_2O_3S$
Molecular Weight:	378.44
Target:	Phospholipase
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (660.61 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6424 mL	13.2121 mL	26.4243 mL
	5 mM	0.5285 mL	2.6424 mL	5.2849 mL
	10 mM	0.2642 mL	1.3212 mL	2.6424 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.08 mg/mL (5.50 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

DPTIP is a potent brain penetrant neutral sphingomyelinase 2 (N-SMase 2) inhibitor (exosome inhibitor), with an IC_{50} of 30 nM[1][2].

In Vitro

DPTIP blocks EV secretion in a dose dependent manner (0.03-30 μM), and at 30 μM, this compound could decrease exosome release by 50% in astrocytes[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

DPTIP potently (10 mg/kg IP) inhibits IL-1β-induced astrocyte-derived EV release[1].

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Animal Model:	Mice[1].

Dosage:	10 mg/kg.
Administration:	IP 0.5 h prior to IL-1β striatal injection.
Result:	Brain concentrations of DPTIP are above its IC50 for nSMase2 inhibition for at least 4 h after compound administration. The number of astrocyte-derived EVs was reduced by 51 ± 13% 2 h post IL-1β administration.

REFERENCES

[1]. Camilo Rojas, et al. DPTIP, a newly identified potent brain penetrant neutral sphingomyelinase 2 inhibitor, regulates astrocyte-peripheral immune communication following brain inflammation. Sci Rep. 2018 Dec 7;8(1):17715.

[2]. Huarui Zhang, et al. Advances in the discovery of exosome inhibitors in cancer. J Enzyme Inhib Med Chem. 2020 Dec;35(1):1322-1330.

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