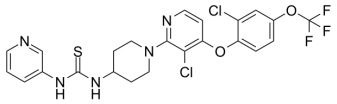
DO-264

Cat. No.:	HY-114157
CAS No.:	2301866-59-9
Molecular Formula:	$C_{23}H_{20}Cl_2F_3N_5O_2S$
Molecular Weight:	558.4
Target:	MAGL
Pathway:	Metabolic Enzyme/Protease
Storage:	-20°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (179.08 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7908 mL	8.9542 mL	17.9083 mL
5 mM	0.3582 mL	1.7908 mL	3.5817 mL
10 mM	0.1791 mL	0.8954 mL	1.7908 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 (3.72 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (3.72 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

DO-264 is a selective and in vivo-active inhibitor of Abhydrolase Domain Containing 12 (ABHD12), with an IC_{50} of 11 nM.

IC_{50} & Target

IC50: 11 nM (ABHD12)[1].

In Vitro

DO-264 displays an IC_{50} value of 11 nM (9.6 nM-13 nM). DO-264 blocks lyso-PS hydrolysis activities of recombinant mouse and human ABHD12 in transfected HEK293T cell lysates (DO-264 IC_{50} values of ~30 and 90 nM against mouse and human ABHD12, respectively) and the ABHD12-dependent lyso-PS lipase activity of membrane lysates from mouse brain (IC_{50}=2.8 nM, 2.4 nM-3.3 nM) and human THP-1 cells (IC_{50}= 8.6 nM, 6.3 nM-12 nM)[1].

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

In Vivo	Mice treated with DO-264 display dose-dependent increases in brain lyso-PS and 20:4 PS content that are qualitatively similar to the changes observed in ABHD12$^{-/-}$ mice. DO-264-treated mice, however, show minimal impairment in auditory function following four weeks of drug exposure. Both ABHD12$^{-/-}$ and DO-264-treated mice display exacerbated immunopathology following infection with the lymphocytic choriomeningitis virus (LCMV) clone 13, resulting in severe inflammatory lung damage, heightened chemokine production, and, in some cases, death[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Neurochem Res. 2021 Aug 12.

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REFERENCES

[1]. Ogasawara D, et al. Selective blockade of the lyso-PS lipase ABHD12 stimulates immune responses in vivo. Nat Chem Biol. 2018 Dec;14(12):1099-1108.

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