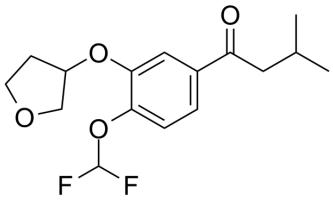
Roflupram

Cat. No.:	HY-115383
CAS No.:	1093412-18-0
Molecular Formula:	$C_{16}H_{20}F_2O_4$
Molecular Weight:	314.32
Target:	Phosphodiesterase (PDE)
Pathway:	Metabolic Enzyme/Protease
Storage:	Pure form -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (318.15 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1815 mL	15.9074 mL	31.8147 mL
	5 mM	0.6363 mL	3.1815 mL	6.3629 mL
	10 mM	0.3181 mL	1.5907 mL	3.1815 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: ≥ 2.5 mg/mL (7.95 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.95 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.95 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Roflupram is a selective, orally active and brain-penetrant PDE4 inhibitor, with an IC_{50} of 26.2 nM for core catalytic domains of human PDE4. Roflupram can reverse cognitive deficits and reduce the production of pro-inflammatory factors[1][2].

IC_{50} & Target

PDE4
26.2 nM (IC_{50})

REFERENCES

[1]. Li D, et, al. Roflupram, a novel phosphodiesterase 4 inhibitor, inhibits lipopolysaccharide-induced neuroinflammatory responses through activation of the AMPK/Sirt1 pathway. Int Immunopharmacol. 2021 Jan;90:107176.

[2]. You T, et, al. Roflupram, a Phosphodiesterase 4 Inhibitior, Suppresses Inflammasome Activation through Autophagy in Microglial Cells. ACS Chem Neurosci. 2017 Nov 15;8(11):2381-2392.

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