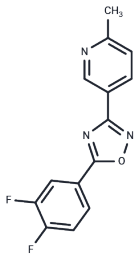
Data Sheet (Cat.No.T60487)

TargetMol

DDO-7263

Chemical Properties



CAS No. : 2254004-96-9

Formula: C14H9F2N3O

Molecular Weight: 273.24

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	DDO-7263 is a 1,2,4-Oxadiazole derivative that upregulates Nrf2 through binding to Rpn6 to block the assembly of 26S proteasome and the subsequent degradation of ubiquitinated Nrf2. DDO-7263 is a potent Nrf2 activator that activates the Nrf2-ARE signaling pathway and exerts anti-inflammatory activity [1].
Targets(IC50)	Nrf2
In vitro	DDO-7263 (20 μM; 2-24 h) can upregulate the protein levels of NQO1 and HO-1. DDO-7263 (2.5, 5, 10, 20, 40, 80 μM; 24 h) can upregulate the survival rate of THP-Ms and PC12 cell after treatment of 400μM H2O2 in a concentration-dependent manner. DDO-7263 has no significant decrease on cell survival rate[1].
In vivo	DDO-7263 (10-100 mg/kg/day; IP; for 10 days) ameliorates MPTP-induced behavioral abnormalities in mice, significantly reduces chemically induced dopaminergic neuron loss of tyrosine hydroxylase (TH) in the substantia nigra (SN) and striatum of the mouse brain, and inhibits inflammatory factor secretion. DDO-7263 (7, 35, 70 mg/kg; IP) has a T1/2 of 3.32 hours and a Cmax of 1.38 mg/mL in rats[1].

Solubility Information

Solubility	DMSO: 16.1 mg/mL (58.92 mM),Sonication and heating to 60℃ are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 1.5 mg/mL (5.49 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	3.6598 mL	18.2989 mL	36.5979 mL
5 mM	0.732 mL	3.6598 mL	7.3196 mL
10 mM	0.366 mL	1.8299 mL	3.6598 mL
50 mM	0.0732 mL	0.366 mL	0.732 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

Xu LL, et al. 5-(3,4-Difluorophenyl)-3-(6-methylpyridin-3-yl)-1,2,4-oxadiazole (DDO-7263), a novel Nrf2 activator targeting brain tissue, protects against MPTP-induced subacute Parkinson's disease in mice by inhibiting the NLRP3 inflammasome and protects PC12 cells against oxidative stress. Free Radic Biol Med. 2019 Apr;134:288-303.
Dai Z, et al. Target Fishing Reveals a Novel Mechanism of 1,2,4-Oxadiazole Derivatives Targeting Rpn6, a Subunit of 26S Proteasome. J Med Chem. 2022 Mar 24;65(6):5029-5043.