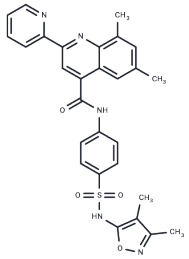
Data Sheet (Cat.No.T22103)

TargetMol

ML-193

Chemical Properties



CAS No. : 713121-80-3

Formula: C28H25N5O4S

Molecular Weight: 527.59

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	ML-193 (CID 1261822) is a potent and selective GPR55 antagonist (IC50: 221 nM) with over 27-fold selectivity for GPR55 over GPR35, CB1, and CB2. It can ameliorate motor and sensorimotor deficits in Parkinson's disease (PD) rats.
Targets(IC50)	Cannabinoid Receptor
In vitro	ML193, a selective GPR55 antagonist.?ML184 significantly promoted neuronal differentiation in vitro while ML193 reduced differentiation rates as compared to vehicle treatment.Continuous administration of O-1602 into the hippocampus via a cannula connected to an osmotic pump resulted in increased Ki67+ cells within the dentate gyrus.?O-1602 increased immature neuron generation, as assessed by DCX+ and BrdU+ cells, as compared to vehicle-treated animals.?GPR55-/- animals displayed reduced rates of proliferation and neurogenesis within the hippocampus while O-1602 had no effect as compared to vehicle controls[2].
In vivo	Intra-striatal administration of ML193 increased time on the rotarod, decreased latency to remove the label and slip steps in 6-OHDA-lesioned rats mostly at the dose of 1 g/rat [1].

Solubility Information

Solubility	DMSO: 60 mg/mL (113.72 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: 2 mg/mL (3.79 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	1.8954 mL	9.4771 mL	18.9541 mL
5 mM	0.3791 mL	1.8954 mL	3.7908 mL
10 mM	0.1895 mL	0.9477 mL	1.8954 mL
50 mM	0.0379 mL	0.1895 mL	0.3791 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

Fatemi I, et, al. The effect of intra-striatal administration of GPR55 agonist (LPI) and antagonist (ML193) on sensorimotor and motor functions in a Parkinson's disease rat model. Acta Neuropsychiatr. 2021 Feb;33(1):15-21.
Hill JD, et, al. Activation of GPR55 increases neural stem cell proliferation and promotes early adult hippocampal neurogenesis. Br J Pharmacol. 2018 Aug;175(16):3407-3421.
Heynen-Genel S, et, al. Screening for Selective Ligands for GPR55-Antagonists. Probe Reports from the NIH Molecular Libraries Program. 2010 Oct 30.