

Product Datasheet

ML193

Catalog No. **BP-00937** · CAS **713121-80-3** · Form **free base** · Physical state **solid** · Color **white to light yellow** · Version **1.0** · Revision **2026-09-04**

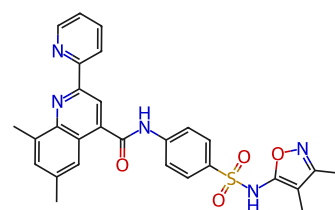
FOR RESEARCH USE ONLY. NOT FOR HUMAN OR VETERINARY USE.

Target GPR55	Research area Neurological Disease
------------------------	--

Molecular formula **C₂₈H₂₅N₅O₄S**

Molecular weight **527.5940**

STRUCTURE



DESCRIPTION

ML-193 (CID 1261822) is a potent and selective antagonist of GPR55, with an IC₅₀ of 221 nM. ML-193 shows more than 27-fold selectivity for GPR55 over GPR35, CB1 and CB2. ML-193 can improve the motor and the sensorimotor deficits of Parkinson's disease (PD) rats.

BIOLOGICAL ACTIVITY

In Vitro

ML-193 (0.01-100 μM; pretreated for 15 min) inhibits β-arrestin trafficking induced by L-α-lysophosphatidylinositol (LPI, 10 μM) and ML186 (1 μM) with IC₅₀s of 0.22 μM and 0.12 μM, respectively.

ML-193 (0.01-10 μM; pretreated for 30 min) decreases the LPI-mediated ERK1/2 phosphorylation, with an IC₅₀ of 0.2 μM in U2OS cells.

ML-193 (5 μM; pretreated for 30 min) attenuates the GPR55 agonists induced increases in hNSCs proliferation rates.

ML-193 (5 μM; 10 d) attenuates the ML184-induced increases in hNSCs differentiation.

In Vivo

ML193 (1 and 5 μg/rat; intra-striatal at a rate of 1 μL/min) attenuates sensorimotor deficits and slip steps, increases motor coordination in PD rats.

SOLUBILITY

Soluble in DMSO

REFERENCES

- [1]. Heynen-Genel S, et, al. Screening for Selective Ligands for GPR55-Antagonists. Probe Reports from the NIH Molecular Libraries Program. 2010 Oct 30.
- [2]. Kotsikorou E, et, al. Identification of the GPR55 antagonist binding site using a novel set of high-potency GPR55 selective ligands. Biochemistry. 2013 Dec 31;52(52):9456-69.
- [3]. 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.
- [4]. 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.

Tel: +86 20 31130026 · Fax: +86 20 36822386 · tech@biochemprobe.com · www.biochemprobe.com

BiochemProbe is the catalog brand of Guangzhou Yuyuan Biotech Co., Ltd. · For research use only.

Lot CoA and SDS are separate documents.