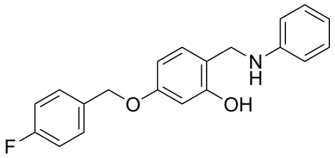
MAO-B-IN-22

Cat. No.:	HY-149820
CAS No.:	2902600-76-2
Molecular Formula:	$C_{20}H_{18}FNO_2$
Molecular Weight:	323.36
Target:	Monoamine Oxidase
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

MAO-B-IN-22 (compound 6h) is a potent MAO-B inhibitor with an IC_{50} of 0.014 μM. MAO-B-IN-22 has high antioxidant activity, good metal chelating ability, proper BBB permeability and significant neuroprotective effect[1].

In Vitro

MAO-B-IN-22 (compound 6h) (2.5-50 μM, 24 h) can protect hydrogen peroxide-induced oxidative damage and improve cell viability in a dose-dependent manner[1].

MAO-B-IN-22 (compound 6h) (0.5-10 μM, 24 h) can dose-dependently reduce LPS-induced NO production and has anti-neuroinflammatory activity[1].

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

Cell Viability Assay[1]

Cell Line:	PC-12 cells
Concentration:	2.5 μM, 10.0 μM, 50.0 μM
Incubation Time:	24 h
Result:	Increased cell viability to 59.8%, 69.6% and 77.2% of the control value at doses of 2.5 μM, 10.0 μM and 50.0 μM, respectively.

Western Blot Analysis[1]

Cell Line:	BV-2 cells
Concentration:	0.5 μM, 2.5 μM, 10.0 μM
Incubation Time:	24 h
Result:	Significantly reduced LPS-induced NO production by 13.5%, 28.0% and 76.1% at concentrations of 0.5 μM, 2.5 μM and 10.0 μM, respectively. Inhibited the release of ROS induced by lipopolysaccharide, and the inhibitory rates were 21.2% and 99.0% at the concentration of 2.5 μM and 10.0 μM , respectively. Significantly inhibited the phosphorylation of IκBα to p-IκBα, and inhibited the translocation of p65 from the cytoplasm to the nucleus.

In Vivo

MAO-B-IN-22 (compound 6h)(53.5 mg/kg, oral gavage, once a day for 3 weeks) can attenuate the level of dopaminergic

neurotransmitters and reduce the level of oxidative damage caused by ROS by inhibiting MAO-B Motor impairment in mice can alleviate motor impairment in MPTP-treated mice and may improve symptoms of PD in vivo[1].

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

Animal Model:	C57BL/6C mice[1]
Dosage:	53.5 mg/kg
Administration:	oral gavage, once a day for 3 weeks
Result:	Significantly improved traction test scores and reduced BWT times, T-turns and T-totals. Restored DA levels and reduce MDA levels.

REFERENCES

[1]. Zhongcheng Cao, et al. Discovery of novel 2-hydroxyl-4-benzyloxybenzyl aniline derivatives as potential multifunctional agents for the treatment of Parkinson's disease. Eur J Med Chem. 2023 Mar 5;249:115142.

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