

MAO-B-IN-7

Chemical Properties

CAS No. :

Formula: C₂₅H₃₁N₄O₄

Molecular Weight: 409.52

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	MAO-B-IN-7 is a potent and blood-brain barrier permeable MAO-B and AChE inhibitor, exhibiting IC ₅₀ values of 41 nM for human AChE, 87 nM for electric eel AChE, and 0.3 μM for MAO-B. MAO-B-IN-7 effectively alleviates oxidative stress and neuroinflammatory damage.
Targets(IC ₅₀)	Others, Reactive Oxygen Species, Cholinesterase (ChE), Monoamine Oxidase
In vitro	MAO-B-IN-7 (compound 7d) interacts with Cu ²⁺ to form complexes and strongly inhibits Cu ²⁺ -induced ROS production. At concentrations of 10-100 μM over 24 hours, it reduces the viability of PC-12 cells at 100 μM, with minimal cytotoxicity at 10-25 μM. It protects PC-12 cells from H ₂ O ₂ -induced injury, yielding viability percentages of 80.2%, 71.1%, and 56.3% at 25.0 μM, 10.0 μM, and 4.0 μM. At 2.5 μM and 10 μM for 8 and 24 hours, it dose-dependently inhibits LPS-induced ROS in BV-2 cells, reduces NO production by 30.4%, 43.5%, and 58.9%, and decreases TNF-α release by 32.7%, 47.8%, and 63.2% at 0.5 μM, 2.5 μM, and 10.0 μM. Additionally, MAO-B-IN-7 demonstrates a parallel artificial membrane permeation of 8.59 × 10 ⁻⁶ in in vitro blood-brain barrier studies.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4419 mL	12.2094 mL	24.4188 mL
5 mM	0.4884 mL	2.4419 mL	4.8838 mL
10 mM	0.2442 mL	1.2209 mL	2.4419 mL
50 mM	0.0488 mL	0.2442 mL	0.4884 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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