

AChE-IN-59

Chemical Properties

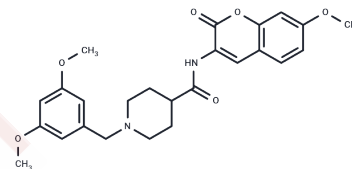
CAS No. : 2957916-86-6

Formula: C₂₅H₂₈N₂O₆

Molecular Weight: 452.50

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	AChE-IN-59 (compound 3b) is an AChE inhibitor with an IC ₅₀ value of 0.05 μM. It effectively inhibits Aβ ₁₋₄₂ aggregation, protects nerve cells, and penetrates the blood-brain barrier efficiently. AChE-IN-59 is suitable for Alzheimer's disease (AD) research [1].
Targets(IC50)	Beta Amyloid,Cholinesterase (ChE)
In vitro	AChE-IN-59 (compound 3b) inhibits ChEs activity at concentrations of 50/100/500/1000 μg/mL over 5 minutes, with IC ₅₀ values of 0.05 μM for AChE and 4.68 μM for BuChE, demonstrating selective inhibition of the AChE subtype [1]. Additionally, AChE-IN-59 exhibits strong in vitro antioxidant activity as indicated by FRAP and DPPH radical scavenging assays [1]. At 25 μM for 5 minutes, AChE-IN-59 shows no cytotoxic effects on SH-SY5Y cells [1]. In cell viability assays using SH-SY5Y cells at concentrations of 0/6.25/12.5/25/50/100 μM over 5 hours, the compound displays notable neuroprotective effects within the 6.25-25 μM range and does not compromise cell viability below 25 μM.
In vivo	AChE-IN-59 (compound 3b) (25 μM, 3 day) has been shown to mitigate the locomotor retardation in zebrafish larvae induced by AlCl ₃ (5 mg/L) [1]. In this study, zebrafish larvae were utilized as the experimental animal model, with the compound administered through immersion at dosages of 5/10/25/50/100 μg/mL. The findings indicate that AChE-IN-59 offers therapeutic benefits against AlCl ₃ -induced behavioral inhibition in zebrafish, with its efficacy enhancing progressively as the drug concentration increases, as evidenced by the gradual increase in the total distance moved by the larvae.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2099 mL	11.0497 mL	22.0994 mL
5 mM	0.442 mL	2.2099 mL	4.4199 mL
10 mM	0.221 mL	1.105 mL	2.2099 mL
50 mM	0.0442 mL	0.221 mL	0.442 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

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481