

Multitarget AD inhibitor-1

Chemical Properties

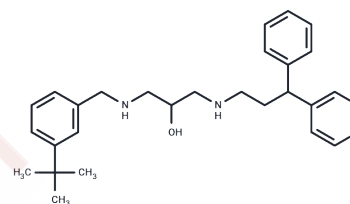
CAS No. : 2205015-77-4

Formula: C₂₉H₃₈N₂O

Molecular Weight: 430.636

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	Multitarget AD inhibitor-1 is a reversible and selective inhibitor of butyrylcholinesterase (BuChE) with IC ₅₀ values of 7.22 μM for human BuChE (hBuChE) and 1.55 μM for equine serum BuChE (eqBuChE). It also exhibits inhibitory activity towards β-secretase (IC ₅₀ 41.60 μM), amyloid β aggregation (IC ₅₀ 3.09 μM), and tau aggregation. As a diphenylpropylamine derivative, Multitarget AD inhibitor-1 is promising for research into multifunctional, disease-modifying treatments for Alzheimer's disease.
Targets(IC ₅₀)	Beta Amyloid,Others,Beta-Secretase,Cholinesterase (ChE)
In vitro	Multitarget Alzheimer's Disease (AD) inhibitor-1 (compound 10) selectively inhibits both equine serum butyrylcholinesterase (eqBuChE) and human butyrylcholinesterase (hBuChE) over acetylcholinesterase from electric eel (eeAChE), achieving a 21.78% inhibition at a concentration of 10 μM[1]. Additionally, at the same concentration, this compound impedes the aggregation of full-length tau protein by 44.4%[1], showcasing its potential as a multifunctional therapeutic agent for AD.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3221 mL	11.6106 mL	23.2213 mL
5 mM	0.4644 mL	2.3221 mL	4.6443 mL
10 mM	0.2322 mL	1.1611 mL	2.3221 mL
50 mM	0.0464 mL	0.2322 mL	0.4644 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

Dawid Panek, et al. Design, Synthesis, and Biological Evaluation of 1-Benzylamino-2-hydroxyalkyl Derivatives as New Potential Disease-Modifying Multifunctional Anti-Alzheimer's Agents. ACS Chem Neurosci. 2018 May 16;9(5): 1074-1094.

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