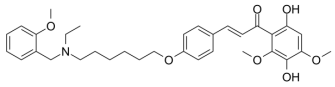
AChE-IN-12

Cat. No.:	HY-144790
CAS No.:	2764664-52-8
Molecular Formula:	$C_{33}H_{41}NO_7$
Molecular Weight:	563.68
Target:	Amyloid-β; AChE; Monoamine Oxidase
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

AChE-IN-12 is a potent and blood-brain barrier (BBB) penetrant acetylcholinesterase (AChE) with IC_{50}s of 0.41 μM and 1.88 μM for rat AChE and electric eel AChE. AChE-IN-12 is also a good antioxidant (ORAC = 3.3 eq), selective metal chelator and huMAO-B inhibitor (IC_{50} = 8.8 μM). AChE-IN-12 has remarkable inhibition of self- and Cu^{2+}-induced $A\beta_{1-42}$ aggregation, as well as exhibits a good neuroprotective effect. AChE-IN-12 can be used for researching Alzheimer's disease[1].

IC_{50} & Target

IC_{50}: 0.41 μM (rat AChE), 1.88 μM (electric eel AChE), 8.8 μM (huMAO-B)[1]

In Vitro

AChE-IN-12 (compound 17f) (10-100 μM) exhibits no obvious cytotoxicity until the concentration increased up to 50 μM[1].
AChE-IN-12 (10 and 50 μM) adds up the cell viability of H_2O_2-induced PC12 cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay

Cell Line:	PC12 cells[1]
Concentration:	10, 50 and 100 μM
Incubation Time:	
Result:	Did not show obvious cytotoxicity until the concentration increased up to 50 μM.

Cell Viability Assay

Cell Line:	PC12 cells (exposed to 100 μM H_2O_2 for 1 hour to establish the oxidative damage model)[1]
Concentration:	10 and 50 μM
Incubation Time:	
Result:	Added up the cell viability to 65.7% ($p < 0.05$) and 73.4% ($p < 0.05$) at 10 and 50 μM, respectively.

REFERENCES

[1]. Sang Z, Song Q, Cao Z, Deng Y, Zhang L. Design, synthesis, and evaluation of chalcone-Vitamin E-donepezil hybrids as multi-target-directed ligands for the treatment of Alzheimer's disease. J Enzyme Inhib Med Chem. 2022;37(1):69-85.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA