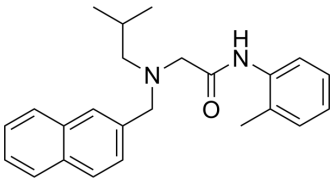
BChE-IN-13

Cat. No.:	HY-151386
CAS No.:	2700896-73-5
Molecular Formula:	$C_{24}H_{28}N_2O$
Molecular Weight:	360.49
Target:	Cholinesterase (ChE)
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	BChE-IN-13 (Compound 17c) is an orally active, potent and selective Butyrylcholinesterase (BChE) inhibitor with IC_{50}s of 0.22 and 0.016 μM for eqBChE and hBChE, respectively. BChE-IN-13 can improve memory and cognitive impairments, and be used in Alzheimer's disease (AD) research[1].
IC_{50} & Target	IC50: 0.22 μM (eqBChE) 0.016 μM (hBChE)[1]
In Vitro	BChE-IN-13 (5-100 μM; 24 h) shows weak toxicity to SH-SY5Y, PC-12 and HT-22, and shows high mortality to BV2 cells[1]. BChE-IN-13 shows excellent blood brain barrier permeation using a parallel artificial membrane permeability assay experiment (PAMPA)[1].

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

Cell Cytotoxicity Assay[1]

Cell Line:	SH-SY5Y, PC12, BV2 and HT-22 cells
Concentration:	5-100 μM
Incubation Time:	24 hours
Result:	Showed cells viability more than 60% of SH-SY5Y, PC-12 and HT-22 even at 100 μM. Showed high mortality in BV2 cells, and reached half the mortality at 20 μM.

In Vivo

BChE-IN-13 (oral gavage; 15 mg/kg; once daily; 6 d) shows the improvement in memory and cognitive function in $A\beta_{1-42}$ induced AD-like disorder mice[1].

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Animal Model:	ICR mice intracerebroventricularly (icv) injected with oligomerized $A\beta_{1-42}$
Dosage:	15 mg/kg
Administration:	Oral gavage; 15 mg/kg; once daily; 6 days
Result:	Improved the memory and cognitive function, and showed a shorter latency compared with Donepezil.

REFERENCES

[1]. Xin Lu, et al. Design, synthesis, and biological evaluation of aromatic tertiary amine derivatives as selective butyrylcholinesterase inhibitors for the treatment of Alzheimer's disease.

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