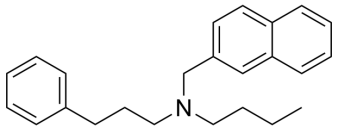
BChE-IN-14

Cat. No.:	HY-151389
CAS No.:	2700896-78-0
Molecular Formula:	$C_{24}H_{29}N$
Molecular Weight:	331.49
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-14 (compound 19c) is a selective butyrylcholinesterase (BChE) inhibitor with IC_{50}s of 0.23 and 0.011 μM for eqBChE and hBChE, respectively. BChE-IN-14 shows good blood brain barrier permeation and primary cell safety. BChE-IN-14 is able to restore cognitive impairment in vivo, it can be used for the research of Alzheimer's disease[1].
IC_{50} & Target	IC50: 0.23 μM (eqBChE), 0.011 μM (hBChE)[1]
In Vitro	BChE-IN-14 (0.0001-100 μM) inhibits eqBChE from house serum and hBChE with IC_{50}s of 0.23 and 0.011 μM, respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	BChE-IN-14 (15 mg/kg; p.o. for $Aβ_{1-42}$ injection days 3-8) affects memory and cognitive function in AD mice model[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	ICR mice with oligomerized $Aβ_{1-42}$ peptide injection[1]
Dosage:	15 mg/kg
Administration:	Oral gavage; 15 mg/kg for $Aβ_{1-42}$ injection days 3-8
Result:	Improved memory and cognitive function in vivo and showed a shorter latency than donepezil.

REFERENCES

[1]. Lu X, et al. Design, synthesis, and biological evaluation of aromatic tertiary amine derivatives as selective butyrylcholinesterase inhibitors for the treatment of Alzheimer's disease. Eur J Med Chem. 2022 Sep 2;243:114729.

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