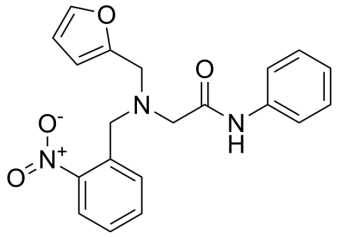
Z164597606

Cat. No.:	HY-151405
CAS No.:	1050587-57-9
Molecular Formula:	$C_{20}H_{19}N_3O_4$
Molecular Weight:	365.38
Target:	Cholinesterase (ChE)
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Z164597606 is a selective BChE inhibitor (IC_{50}: 1.3 and 1.7 μM for eqBChE and hBChE). Z164597606 forms a π-π stacking interaction with the amino acid Trp82 of hBChE. Z164597606 can be used for the research of Alzheimer's disease (AD)[1][2].	
IC_{50} & Target	eqBCHE 1.3 μM (IC_{50})	hBCHE 1.7 μM (IC_{50})
In Vitro	Z164597606 (10 μM) potently inhibits BChE activity, with no more than 30% inhibitory against ACHE[1]. Z164597606 (0.5-20 μM) may bind to catalytic "anionic" site (CAS) when interacting with BChE (determined by Lineweaver-Burk reciprocal plots)[1]. Z164597606 (10 and 50 μM) shows no toxicity on neuronal cell line SH-SY5Y[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. Xin Lu, et al. Expansion of the scaffold diversity for the development of highly selective butyrylcholinesterase (BChE) inhibitors: Discovery of new hits through the pharmacophore model generation, virtual screening and molecular dynamics simulation. Bioorg Chem. 2019 Apr;85:117-127.

[2]. 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. Eur J Med Chem. 2022 Sep 2;243:114729.

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