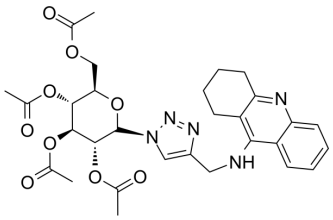
AChE-IN-9

Cat. No.:	HY-143291
Molecular Formula:	$C_{30}H_{35}N_5O_9$
Molecular Weight:	609.63
Target:	Cholinesterase (ChE)
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	AChE-IN-9 is a Tacrine (HY-111338) glycoconjugate tethered with acetylated β-Glucose. AChE-IN-9 is also an AChE inhibitor with an IC_{50} value of 0.4 μM, with lower hepatotoxicity on healthy cells. Tacrine is used in Alzheimer's research[1].
IC_{50} & Target	Acetylcholinesterase 0.4 μM (IC_{50})
In Vitro	Tacrine (HY-111338) is mainly metabolized by CYP 1A2, but its glycoconjugates have shown more affinity towards CYP 3A4 rather than CYP 1A2[1]. AChE-IN-9 (compound A-1) (200 μM; 24 h) is non-toxic on HePG2 cell line with 100% cell viability, and shows lower hepatotoxicity than Tacrine (HY-111338) on healthy HepG2 cells[1]. AChE-IN-9 (10 μM; 24 h) inhibits AChE activity with inhibition rate of 96.6%[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[1]

Cell Line:	HepG2 cells
Concentration:	3.125, 6.25, 25, 50, 100, 200 μM
Incubation Time:	24 hours
Result:	Showed much lower toxic effect on HepG2 cell than Tacrine (HY-111338) in a dose dependent manner, showing the inflexion point at the concentration of 100 μM.

REFERENCES

[1]. Kaur Gulati H, et al. Design, Synthesis, biological investigations and molecular interactions of triazole linked tacrine glycoconjugates as Acetylcholinesterase inhibitors with reduced hepatotoxicity. Bioorg Chem. 2022 Jan;118:105479.

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