β-NETA

Cat. No.: HY-124957

CAS No.: 31059-54-8

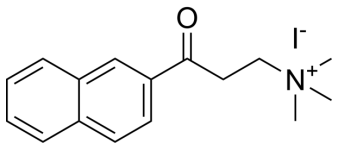
Molecular Formula: $C_{16}H_{20}INO$

Molecular Weight: 369.24

Target: Apoptosis; Cholinesterase (ChE)

Pathway: Apoptosis; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 31.25 mg/mL (84.63 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7083 mL	13.5413 mL	27.0827 mL
	5 mM	0.5417 mL	2.7083 mL	5.4165 mL
	10 mM	0.2708 mL	1.3541 mL	2.7083 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.63 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.63 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

β-NETA is a potent and noncompetitive choline acetyltransferase (ChA; IC_{50}=76 μM) and cholinesterase (ChE; IC_{50}=40 μM) inhibitor. β-NETA weakly inhibits acetylcholinesterase (AChE; IC_{50}=1 mM)[1][2].

IC_{50} & Target

AChE

In Vitro

β-NETA exhibits no effects at muscarinic receptors, ganglionic nicotinic receptors, skeletal muscular nicotinic receptors, cholinesterases or carnitine acetyltransferase at concentrations which inhibits ChA. At concentrations higher than the IC50 value to inhibit ChA, β-NETA antagonizes the effect of acetylcholine (ED50=100 μM), histamine and KCl-induced contractions in the guinea pig longitudinal ileal muscle[2].

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

REFERENCES

[1]. Sastry BV, et al. Relationships between chemical structure and inhibition of choline acetyltransferase by 2-(alpha-naphthoyl)ethyltrimethylammonium and related compounds. Pharmacol Res Commun. 1988 Sep;20(9):751-71.

[2]. B V Sastry, et al. 2-(alpha-Naphthoyl)ethyltrimethylammonium iodide and its beta-isomer: new selective, stable and fluorescent inhibitors of choline acetyltransferase. J Pharmacol Exp Ther. 1988 Apr;245(1):72-80.

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