Anisodamine

Cat. No.: HY-N0584

CAS No.: 55869-99-3

Molecular Formula: $C_{17}H_{23}NO_4$

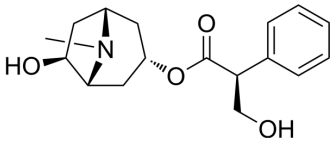
Molecular Weight: 305.37

Target: mAChR

Pathway: GPCR/G Protein; Neuronal Signaling

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (327.47 mM)

H_2O : 20 mg/mL (65.49 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.2747 mL	16.3736 mL	32.7472 mL
5 mM	0.6549 mL	3.2747 mL	6.5494 mL
10 mM	0.3275 mL	1.6374 mL	3.2747 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (163.74 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.19 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.19 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.19 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Anisodamine (6-Hydroxyhyoscyamine), a belladonna alkaloid, is a non-subtype-selective muscarinic, and also a nicotinic cholinoceptor antagonist. Anisodamine employs in traditional Chinese medicine for many ailments, mainly to improve the microcirculation in states of shock, and also in organophosphate poisoning[1][2].

IC_{50} & Target	Nicotinic cholinoceptor[1]
In Vitro	Anisodamine (100 μg/mL; 20 minutes; RAW264.7 cells) pretreatment for 20 minutes before Ach results in significantly attenuates average fluorescence intensity of α-bungarotoxin binding compared with Ach alone[2]. Anisodamine action might be through blockade of muscarinic receptors and thus allowing more endogenous ACh binding to the α-7nAChR[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Anisodamine (50 mg/kg; i.p.; 72 hours) markedly decreases the mortality to 20%[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	LPS-Induced Shock Mice[2]
Dosage:	50 mg/kg
Administration:	I.p.
Result:	Markedly decreased the mortality to 20%.

REFERENCES

[1]. Eisenkraft A, et al. Possible role for anisodamine in organophosphate poisoning. Br J Pharmacol. 2016 Jun;173(11):1719-27.

[2]. Liu C, et al. Antishock effect of anisodamine involves a novel pathway for activating alpha7 nicotinic acetylcholine receptor. Crit Care Med. 2009;37(2):634-641.

Caution: Product has not been fully validated for medical applications. For research use only.

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