Aceclidine

Cat. No.: HY-32067

CAS No.: 827-61-2

Molecular Formula: $C_9H_{15}NO_2$

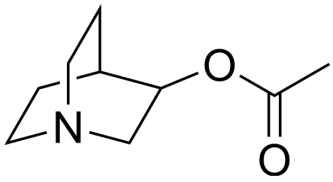
Molecular Weight: 169.22

Target: mAChR

Pathway: GPCR/G Protein; Neuronal Signaling

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (590.95 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	5.9095 mL	29.5473 mL	59.0947 mL
	5 mM	1.1819 mL	5.9095 mL	11.8189 mL
	10 mM	0.5909 mL	2.9547 mL	5.9095 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: ≥ 2.5 mg/mL (14.77 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (14.77 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (14.77 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Aceclidine (Quinuclidin-3-yl acetate) is a modulator of M3 muscarinic acetylcholine receptor and a M1 receptor agonist (EC_{50} : 40 μM). Aceclidine is a cycloplegic agent, a surfactant, a tonicity adjustor and optionally a viscosity enhancer and an antioxidant. Aceclidine has the potential for the research of disorders such as refractive errors of the eye, xerostomia, Sjogren's syndrome, glaucoma, conjunctivitis, lacrimal gland disease, and esotropia[1][2][3].

IC_{50} & Target		
	mAChR3	mAChR1

In Vivo	Aceclidine (1-10mg/kg, s.c.) reverses Hemicholinium-3 (HY-B2152) induces spatial learning and deficit in rats[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Cui Y, et al. Enhancement of memory function in aged mice by a novel derivative of xanomeline. Cell Res. 2008 Nov;18(11):1151-3.

[2]. Hagan JJ, et al. Hemicholinium-3 impairs spatial learning and the deficit is reversed by cholinomimetics. Psychopharmacology (Berl). 1989;98(3):347-56.

[3]. Gerald Horn, et al. Storage Stable Compositions and Methods for the Treatment of Refractive Errors of the Eye. Patent US20150290125A1.

[4]. Thomas G. Gant, et al. Imidazole modulators of muscarinic acetylcholine receptor m3. Patent US20110091459A1.

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