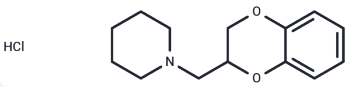
Data Sheet (Cat.No.T4526)

TargetMol

Piperoxan hydrochloride

Chemical Properties



CAS No. : 135-87-5

Formula: C14H20ClNO2

Molecular Weight: 269.77

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Piperoxan hydrochloride (Benodaine hydrochloride) is an α2 adrenoceptor antagonist. Piperoxan (benodaine) is a drug which was the very first antihistamine to be discovered.
Targets(IC50)	Adrenergic Receptor
In vitro	When superfusing the medulla with Piperoxan (50 μM; 5 min) and the pons with artificial cerebrospinal fluid (ACSF), three inactive preparations exhibit low-frequency rhythmic phrenic bursts (2-4 c/min), with the phrenic burst frequency in 12 active preparations significantly increasing to 163±12% of the previous average frequency in the final 3 minutes of Piperoxan application. In active preparations, the impact of norepinephrine (NA) applications (25 μM; 5 min) is assessed under conditions of superfusion with either ACSF (n=8) or α2 adrenoceptor antagonist Piperoxan (50 μM; PIP-ACSF; n=5). Both scenarios of NA application (NA-ACSF alone or combined with PIP-ACSF+NA) lead to a marked increase in phrenic burst frequency. Notably, inhibiting medullary α2 adrenoceptors with Piperoxan significantly enhances this effect: during NA application's fifth minute, phrenic burst frequency escalates to 171±11% with ACSF alone and 234±21% under PIP-ACSF, compared to the baseline control values.

Solubility Information

Solubility	DMSO: 50 mg/mL (185.34 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7069 mL	18.5343 mL	37.0686 mL
5 mM	0.7414 mL	3.7069 mL	7.4137 mL
10 mM	0.3707 mL	1.8534 mL	3.7069 mL
50 mM	0.0741 mL	0.3707 mL	0.7414 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Viemari JC, et al. Nasal trigeminal inputs release the A5 inhibition received by the respiratory rhythm generator of the mouse neonate. J Neurophysiol. 2004 Feb;91(2):746-58.
Bentley GA, et al. The antinociceptive action of some beta-adrenoceptor agonists in mice. Br J Pharmacol. 1986 Jul; 88(3):515-21.