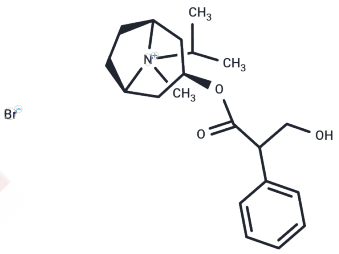
Data Sheet (Cat.No.T6547)

TargetMol

Ipratropium Bromide

Chemical Properties



CAS No. : 22254-24-6

Formula: C20H30BrNO3

Molecular Weight: 412.37

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Ipratropium Bromide (Sch 1000) is a synthetic anticholinergic agent that is used as an inhalant for treatment of acute bronchospasm due to chronic bronchitis and emphysema.
Targets(IC50)	AChR
In vitro	Ipratropium bromide combined with Formoterol partially protects the lungs against the chronic inflammation and airspace enlargement by reducing neutrophilic infiltration possibly via the inhibition of MMP-9 activity. [1] Ipratropium bromide (1 nM) significantly increases [Ca(2+)](i), decreases forward scatter and increases annexin-V-binding. Ipratropium bromide treatment is followed by slight but significant increase of hemolysis. Ipratropium bromide triggers suicidal erythrocyte death or eryptosis, an effect mainly due to stimulation of Ca(2+)-entry. [2]
In vivo	Ipratropium dry powder inhalation (DPI) at a dose of 2400 mg/horse is an effective bronchodilator in these horses at rest but it has little effect on the airway calibre during the recovery period. [3] Ipratropium significantly attenuates the lung lesions associated with parenchyma inflammatory cell influx and congestion observed in the cadmium treated rats. Ipratropium bromide partially protects the lungs against the inflammation by reducing neutrophilic infiltration. [4] Ipratropium is an antagonist for pre-junctional muscarinic inhibitory receptors on pulmonary parasympathetic nerves and also confirms its potent antagonist actions on post-junctional muscarinic receptors in the airway smooth muscle in the guinea-pig. [5] Ipratropium decreases the maximal change in pleural pressure during tidal breathing (delta Pplmax) and pulmonary resistance (RL) and increases dynamic compliance (Cdyn) in horse. [6]

Solubility Information

Solubility	H2O: 201.3 mM,Sonication is recommended. DMSO: 123 mg/mL (298.28 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (9.7 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.425 mL	12.125 mL	24.2501 mL
5 mM	0.485 mL	2.425 mL	4.850 mL
10 mM	0.2425 mL	1.2125 mL	2.425 mL
50 mM	0.0485 mL	0.2425 mL	0.485 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Zhang W, et al. Eur J Pharmacol,2010, 647(1-3), 178-187.
Shaik N, et al. Cell Physiol Biochem,2012, 30(6), 1517-1525.
Duvivier DH, et al. Equine Vet J,1999, 31(1), 20-24.
Zhang W, et al. Eur J Pharmacol,2010, 628(1-3), 171-178.
Fryer AD, et al. Eur J Pharmacol,1987, 139(2), 187-191.