Product Data Sheet

Product Name: N-Isopropylnoratropine
Cat. No.: GC10378

Chemical Properties

Cas. No.	22235-81-0		
Chemical Name	(3-endo)-8-(1-methylethyl)-8-azabicyclo[3.2.1]oct-3-yl ester α-(hydroxymethyl)-benzeneacetic acid		
SMILES	O=C(C(CO)C1=CC=CC=C1)O[C@H]2C[C@H]3CC[C@H](N3C(C)C)C2		
Formula	$C_{19}H_{27}NO_3$	M.Wt	317.4
Solubility	≤16mg/ml in ethanol;10mg/ml in DMSO;2mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	N-Isopropylnoratropine		

Background

N-Isopropylnoratropine is a noratropine derivative and an intermediate in the production of ipratropium, an atropine-like bronchodilator drug via an anticholinergic pathway. N-Isopropylnoratropine is used to examine the stability of ipratropium [1].

Muscarinic acetylcholine receptors are acetylcholine receptors that form G protein-receptor complexes in the cell membranes of certain neurons and other cells.

N-Isopropylnoratropine is an intermediate in the production of ipratropium and used to examine the stability of ipratropium. Ipratropium exhibits broncholytic action by reducing the influence of cholinergic on the bronchial musculature. Ipratropium blocks muscarinic acetylcholine receptors and therefore promotes the degradation of cGMP. Ipratropium bromide (IB) is an anticholinergic bronchodilatory agent to treat chronic obstructive pulmonary disease. In anesthetized dogs, Ipratropium with 0.01 and 0.1 mg/ml constricted the airways to 22 +/- 2% and 20 +/- 3% of control, respectively,

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

whereas larger concentrations caused bronchodilation [2]. In moderate asthmatic patients, Ipratropium bromide (IB) induced a significant shift of dose-response curve to inhalation of substance P (SP), suggesting that bronchoconstriction induced by SP could be attributed to a weak cholinergic activation [3].

References:

[1]. Kasawar GB, Farooqui M. Development and validation of a stability indicating RP-HPLC method for the simultaneous determination of related substances of albuterol sulfate and ipratropium bromide in nasal solution. J Pharm Biomed Anal. 2010 May 1;52(1):19-29.
[2]. Groeben H, Brown RH. Ipratropium decreases airway size in dogs by preferential M2 muscarinic receptor blockade in vivo. Anesthesiology. 1996 Oct;85(4):867-73.
[3]. Crimi N, Palermo F, Oliveri R, et al. Influence of antihistamine (astemizole) and anticholinergic drugs (ipratropium bromide) on bronchoconstriction induced by substance P. Ann Allergy. 1990 Aug;65(2):115-20.