

Chlorphenesin Carbamate

Chemical Properties

CAS No. : 886-74-8

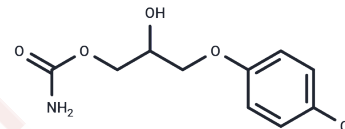
Formula: C₁₀H₁₂ClNO₄

Molecular Weight: 245.66

Keep away from direct sunlight

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	Chlorphenesin Carbamate is a skeletal muscle relaxant acting on the central nervous system, which can be used in research related to skeletal muscle injury and inflammation-associated pain. Its mechanism of action mainly involves the selective blockade of spinal polysynaptic transmission pathways and certain analgesic activity.
Targets(IC50)	Others
In vivo	Chlorphenesin Carbamate (CPC) inhibits monosynaptic reflex (MSR) and polysynaptic reflex (PSR) at an intravenous dose of 50 mg/kg. The polysynaptic reflex is more sensitive to CPC inhibition than the monosynaptic reflex. In addition, CPC exerts a marked inhibitory effect on spinal neurons and induces hyperpolarization of both ventral and dorsal roots in the isolated frog spinal cord [2]. Chlorphenesin Carbamate (CPC) exhibits antinociceptive effects in a rat model of adjuvant-induced arthritis. Behavioral studies show that CPC produces dose-dependent antinociceptive effects when administered orally at doses of 100-400 mg/kg. Electrophysiological studies demonstrate that intravenous administration of CPC at 25-50 mg/kg inhibits evoked responses of nociceptive neurons in the ventrobasal thalamus (VB). At an intravenous dose of 50 mg/kg, CPC also suppresses spontaneous firing of nociceptive neurons in the VB region [3].

Solubility Information

Solubility	DMSO: 100 mg/mL (407.07 mM), Sonication is recommended. H ₂ O: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.0707 mL	20.3533 mL	40.7067 mL
5 mM	0.8141 mL	4.0707 mL	8.1413 mL
10 mM	0.4071 mL	2.0353 mL	4.0707 mL
50 mM	0.0814 mL	0.4071 mL	0.8141 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

Ji-young Yu, et al. Relative bioavailability of generic and branded 250-mg and 500-mg oral chlorphenesin carbamate tablets in healthy Korean volunteers: a single-dose, randomized-sequence, open-label, two-period crossover trial. *Clin Ther.* 2009 Nov;31(11):2735-43.

M Kurachi, et al. Effect of a muscle relaxant, chlorphenesin carbamate, on the spinal neurons of rats. *Jpn J Pharmacol.* 1984 Sep;36(1):7-13.

S Okuyama, et al. Antinociceptive effect of chlorphenesin carbamate in adjuvant arthritic rats. *Res Commun Chem Pathol Pharmacol.* 1987 Feb;55(2):147-60.

Watanabe S, Araki H, Kawasaki H, Ueki S. [Electroencephalographic effects of chlorphenesin carbamate, a new central muscle relaxant, in rabbits (author's transl)]. *Nihon Yakurigaku Zasshi.* 1977 May;73(4):479-96. Japanese. PubMed PMID: 908544.

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