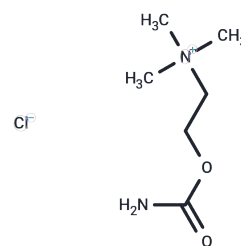


Carbachol

Chemical Properties

CAS No. :	51-83-2
Formula:	C ₆ H ₁₅ ClN ₂ O ₂
Molecular Weight:	182.65
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Carbachol (Carbamoylcholine chloride), an analog of acetylcholine, serves as a valuable tool in the investigation of various physiological responses mediated by nicotinic (nAChR) and muscarinic (mAChR) acetylcholine receptors. These responses include smooth muscle contraction, gut motility, and neuronal signaling. Known for its agonistic properties, Carbachol activates both nAChR and mAChR, with reported <i>K_i</i> values ranging from 10 to 10,000 nM for different receptor types and experimental preparations.
Targets(IC ₅₀)	AChR

Solubility Information

Solubility	DMSO: 4.23 mg/mL (23.16 mM), Sonication is recommended. H ₂ O: 45 mg/mL (246.4 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.475 mL	27.3748 mL	54.7495 mL
5 mM	1.095 mL	5.475 mL	10.9499 mL
10 mM	0.5475 mL	2.7375 mL	5.475 mL
50 mM	0.1095 mL	0.5475 mL	1.095 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

Dharmasathaphorn K, Pandol SJ. Mechanism of chloride secretion induced by carbachol in a colonic epithelial cell line. *J Clin Invest*. 1986 Feb;77(2):348-54.

Keely SJ, Uribe JM, Barrett KE. Carbachol stimulates transactivation of epidermal growth factor receptor and mitogen-activated protein kinase in T84 cells. Implications for carbachol-stimulated chloride secretion. *J Biol Chem*. 1998 Oct 16;273(42):27111-7.

French SJ, et al. Hippocampal neurotrophin and trk receptor mRNA levels are altered by local administration of nicotine, carbachol and pilocarpine. *Brain Res Mol Brain Res*. 1999 Apr 6;67(1):124-36.

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