Pentoxyverine citrate

Cat. No.:	HY-B1055	
CAS No.:	23142-01-0	
Molecular Formula:	$C_{26}H_{39}NO_{10}$	
Molecular Weight:	525.59	
Target:	Sigma Receptor; mAChR	0~0
Pathway:	Neuronal Signaling; GPCR/G Protein	
Storage:	4°C, sealed storage, away from moisture	HO ČH
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)	

SOLVENT & SOLUBILITY

In Vitro	DMSO : ≥ 36 mg/mL (68.49 mM) * "≥" means soluble, but saturation unknown.						
	Preparing Stock Solutions	Solvent Mass Concentration	1 mg	5 mg	10 mg		
		1 mM	1.9026 mL	9.5131 mL	19.0262 mL		
		5 mM	0.3805 mL	1.9026 mL	3.8052 mL		
		10 mM	0.1903 mL	0.9513 mL	1.9026 mL		
	Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (3.96 mM); Clear solution						
	2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (3.96 mM); Clear solution						
	3. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (3.96 mM); Clear solution						

BIOLOGICAL ACTIV	ТТУ	
Description	Pentoxyverine (Carbetapentar σ1, σ2 and guinea-pig brain m citrate is a potent antitussive, bronchial interceptor, weaken ^{[2][3][4]} .	ne) citrate is an orally active sigma-1 receptor agonist, with K _i s of 41 nM, 894 nM and 75 nM for membrane σ1, respectively. Pentoxyverine citrate is a muscarinic antagonist. Pentoxyverine anticonvulsant, and spasmolytic agent. Pentoxyverine citrate can be used for inhibiting hing of cough reflex, bronchial smooth muscle relaxation and reduction of airway resistance ^[1]
IC ₅₀ & Target	σ1 41 nM (Ki)	σ2 894 nM (Ki)



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Product Data Sheet

In Vivo	Pentoxyverine (Carbetapentane; 1-32 mg/kg; SC) citrate dose-dependently potentiates the sensitizing effect of capsaicin to the mechanical stimulus when the mice were stimulated in the paw injected with Capsaicin (HY-10448) ^[4] . Pentoxyverine (16 mg/kg; SC) citrate shows strong potentiation of Capsaicin-induced secondary mechanical allodynia ^[4] . Pentoxyverine (50 mg/kg; orally;) citrate, used for positive control, increases the percentage of the aqueous ammonia-induced latent period of cough by 121.72%, inhibits cough frequency by 45.45% after administration for 7 days in mice of either sex (22-25 g) ^[5] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.				
	Animal Model:	Female wild-type weighing 25 to 30 g ^[4]			
	Dosage:	0.5, 1, 2, 4, 8, 16, 32 mg/kg			
	Administration:	SC; 30 min before the intraplantar (i.pl.) administration of capsaicin (0.125 $\mu g)$			
	Result:	Dose-dependently potentiated the sensitizing effect of capsaicin to the mechanical stimulus when the mice were stimulated in the paw injected with capsaicin.			

REFERENCES

[1]. Mohamed SH, et, al. Extraction-free spectrophotometric assay of the antitussive drug pentoxyverine citrate using sulfonephthalein dyes. Spectrochim Acta A Mol Biomol Spectrosc. 2019 Nov 5;222:117186.

[2]. Calderon SN, et, al. Novel 1-phenylcycloalkanecarboxylic acid derivatives are potent and selective sigma 1 ligands. J Med Chem. 1994 Jul 22;37(15):2285-91.

[3]. Brown C, et, al. Antitussive activity of sigma-1 receptor agonists in the guinea-pig. Br J Pharmacol. 2004 Jan;141(2):233-40.

[4]. J M Entrena, et al. Sigma-1 Receptor Agonism Promotes Mechanical Allodynia After Priming the Nociceptive System with Capsaicin. Sci Rep. 2016 Nov 25:6:37835. doi: 10.1038/srep37835.

[5]. Yuebin Ge, et al. In Vivo Evaluation of the Antiasthmatic, Antitussive, and Expectorant Activities and Chemical Components of Three Elaeagnus Leaves. Evid Based Complement Alternat Med. 2015:2015:428208.

Caution: Product has not been fully validated for medical applications. For research use only.

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