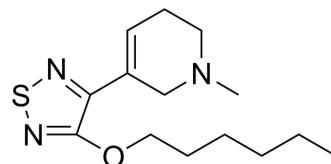


Xanomeline

Cat. No.:	HY-105182		
CAS No.:	131986-45-3		
Molecular Formula:	C ₁₄ H ₂₃ N ₃ OS		
Molecular Weight:	281.42		
Target:	mAChR		
Pathway:	GPCR/G Protein; Neuronal Signaling		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 33.33 mg/mL (118.44 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		3.5534 mL	17.7670 mL	35.5341 mL
		5 mM		0.7107 mL	3.5534 mL	7.1068 mL
10 mM			0.3553 mL	1.7767 mL	3.5534 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (8.88 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (8.88 mM); Suspended solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (8.88 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	Xanomeline, as an effective and selective muscarinic type 1 and type 4 (M1/M4) receptor agonist, increases neuronal excitability. Xanomeline can be used for the research of neurological disorders, such as schizophrenia ^{[1][2]} .	
IC₅₀ & Target	mAChR1	mAChR4
In Vitro	Xanomeline (0.1~10 μM; CNS4U) shows an overall increase in the mean firing rate. Xanomeline shows the M1 receptor is functional in hiPSC derived neurons. Xanomeline (∅1 μM) has a prolonged engagement with the receptor and produces a	

persistent receptor activation leading to a sustained suppression of the M-current^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Xanomeline (0.5~3 mg/kg; s.c.; 1~3 hours) induces salivation and vomiting in some monkeys^[3].
Xanomeline shows functional dopamine antagonism and an antipsychotic-like profile. Xanomeline inhibits D-amphetamine- and (-)-apomorphine-induced behavior and do not cause extrapyramidal side effects^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Cebus apella monkeys
Dosage:	0.5~3 mg/kg
Administration:	S.c.; 1~3 hours
Result:	Induced salivation and vomiting in some monkeys.

CUSTOMER VALIDATION

- Int J Mol Sci. 2023 Apr 16, 24(8), 7356.

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REFERENCES

- [1]. Kreir M, et al. Role of Kv7.2/Kv7.3 and M1 muscarinic receptors in the regulation of neuronal excitability in hiPSC-derived neurons. Eur J Pharmacol. 2019;858:172474
- [2]. Shekhar A, et al. Selective muscarinic receptor agonist xanomeline as a novel treatment approach for schizophrenia. Am J Psychiatry. 2008;165(8):1033-1039.
- [3]. Andersen MB, et al. The muscarinic M1/M4 receptor agonist xanomeline exhibits antipsychotic-like activity in Cebus apella monkeys. Neuropsychopharmacology. 2003;28(6):1168-1175.

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

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