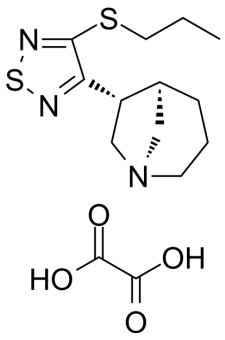
PTAC oxalate

Cat. No.:	HY-107656
CAS No.:	201939-40-4
Molecular Formula:	$C_{14}H_{21}N_3O_4S_2$
Molecular Weight:	359.46
Target:	mAChR
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	PTAC oxalate is a selective muscarinic receptor ligand. PTAC oxalate is an partial agonist of M2 and M4 but antagonist of M1, M3, and M5 (K_i values of 0.2-2.8 nM for hM1-5 in CHO cells). PTAC oxalate alleviates the mechanical allodynia on the neuropathic pain and has antidepression effects[1][2].

IC_{50} & Target

mAChR1 0.6 nM (Ki)	mAChR2 2.8 nM (Ki)	mAChR3 0.2 nM (Ki)	mAChR4 0.2 nM (Ki)
mAChR5 0.8 nM (Ki)			

In Vivo

PTAC oxalate (0.01, 0.05 mg/kg; IP) alleviates the mechanical allodynia in 0.05 mg/kg. PTAC oxalate decreases the immobility time of mice from both the sham and nerve injury groups at the dose of 0.05 mg/kg, but not at the dose of 0.01 mg/kg[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Mouse model of neuropathic pain[2]
Dosage:	0.01, 0.05 mg/kg
Administration:	IP
Result:	The mechanical allodynia was alleviated with 0.05 mg/kg. At 0.05 mg/kg increased the paw withdrawal thresholds (PWTs) of the nerve-injury groups injected at day 4 after nerve injury. At 0.01 mg/kg had no effect on the PWTs in the sham and nerve-injury groups injected at day 14 after nerve injury.

REFERENCES

[1]. F P Bymaster, et al. Unexpected antipsychotic-like activity with the muscarinic receptor ligand (5R,6R)6-(3-propylthio-1,2,5-thiadiazol-4-yl)-1-azabicyclo[3.2.1]octane. Eur J Pharmacol. 1998 Sep 4;356(2-3):109-19.

[2]. (5R,6R)6-(3-Propylthio-1,2,5-thiadiazol-4-yl)-1-azabicyclo[3.2.1] Octane on a Mouse Model of Neuropathic Pain. Anesth Analg. 2017 Apr;124(4):1330-1338.

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

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