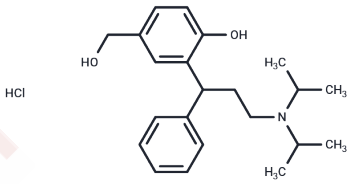
Data Sheet (Cat.No.T40161)

TargetMol

(Rac)-5-Hydroxymethyl Tolterodine hydrochloride

Chemical Properties



CAS No. : 250214-40-5

Formula: C22H32ClNO2

Molecular Weight: 377.95

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	(Rac)-5-Hydroxymethyl Tolterodine hydrochloride, also known as (Rac)-Desfesoterodine hydrochloride, is an active metabolite of Tolterodine that functions as a mAChR antagonist. It exhibits significant affinity (K i values) for M1, M2, M3, M4, and M5 receptors, with values of 2.3 nM, 2 nM, 2.5 nM, 2.8 nM, and 2.9 nM, respectively. This compound is commonly employed in research related to overactive bladder conditions.
Targets(IC50)	Others,AChR
In vitro	In vitro, (Rac)-5-Hydroxymethyl Tolterodine (PNU-200577) hydrochloride demonstrates competitive, concentration-dependent inhibition of carbachol-induced contraction in isolated guinea-pig urinary bladder strips, with a binding affinity (K B) of 0.84 nM and a potency of 9.14 (pA2)[2].
In vivo	Treatment with (Rac)-5-Hydroxymethyl Tolterodine (5-HMT; 0.88 μmol/kg; i.v.) hydrochloride demonstrates significant binding activity to muscarinic receptors across all tissues, barring the cerebral cortex, and exhibits prolonged activity in the bladder[3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6459 mL	13.2293 mL	26.4585 mL
5 mM	0.5292 mL	2.6459 mL	5.2917 mL
10 mM	0.2646 mL	1.3229 mL	2.6459 mL
50 mM	0.0529 mL	0.2646 mL	0.5292 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

L Nilvebrant, et al. Antimuscarinic potency and bladder selectivity of PNU-200577, a major metabolite of tolterodine. Pharmacol Toxicol. 1997 Oct;81(4):169-72.
B Malhotra, et al. The design and development of fesoterodine as a prodrug of 5-hydroxymethyl tolterodine (5-HMT), the active metabolite of tolterodine. Curr Med Chem. 2009;16(33):4481-9.
Shizuo Yamada, et al. Muscarinic receptor binding of fesoterodine, 5-hydroxymethyl tolterodine, and tolterodine in rat tissues after the oral, intravenous, or intravesical administration. J Pharmacol Sci. 2019 May;140(1):73-78.

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