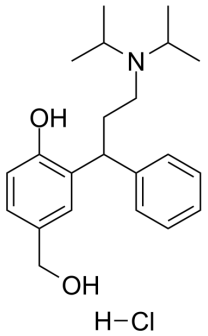
(Rac)-5-Hydroxymethyl Tolterodine hydrochloride

Cat. No.:	HY-76570A
CAS No.:	250214-40-5
Molecular Formula:	$C_{22}H_{32}ClNO_2$
Molecular Weight:	377.95
Target:	mAChR
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



BIOLOGICAL ACTIVITY

Description	(Rac)-5-Hydroxymethyl Tolterodine ((Rac)-Desfesoterodine) hydrochloride, an active metabolite of Tolterodine, is a mAChR antagonist (K_i values of 2.3 nM, 2 nM, 2.5 nM, 2.8 nM, and 2.9 nM for M1, M2, M3, M4, and M5 receptors, respectively). (Rac)-5-Hydroxymethyl Tolterodine hydrochloride can be used for overactive bladder research[1].
IC_{50} & Target	Ki: M1 (2.3 nM), M2 (2 nM), M3 (2.5 nM), M4 (2.8 nM), and M5 (2.9 nM)[1]
In Vitro	In vitro, (Rac)-5-Hydroxymethyl Tolterodine (PNU-200577) hydrochloride produces a competitive and concentration-dependent inhibition of carbachol-induced contraction of guinea-pig isolated urinary bladder strips (K_B of 0.84 nM; pA2 of 9.14)[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	(Rac)-5-Hydroxymethyl Tolterodine (5-HMT; 0.88 μmol/kg; i.v.) hydrochloride treatment shows the binding activity of (Rac)-5-Hydroxymethyl Tolterodine hydrochloride to muscarinic receptors is significantly observed in all tissues, except cerebral cortex, with a longer duration in bladder[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. 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.

[2]. 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.

[3]. 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.

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

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