

Product Data Sheet

Product Name: (R)-(+)-Tolterodine

Cat. No.: GC11219

Chemical Properties

Cas. No. 124937-51-5

Chemical Name 2-[(1R)-3-[di(propan-2-yl)amino]-1-phenylpropyl]-4-methylphenol

SMILES CC1=CC(=C(C=C1)O)C(CCN(C(C)C)C(C)C)C2=CC=CC=C2

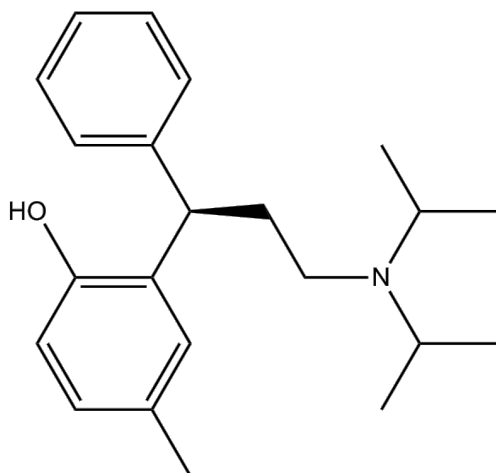
Formula C₂₂H₃₁NO M.Wt 325.49

Solubility Ethanol : 120 mg/mL (368.67 mM; Need ultrasonic); DMSO : 100 mg/mL (307.23 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

Tolterodine(PNU-200583) is a potent muscarinic receptor antagonists that show selectivity for the urinary bladder over salivary glands in vivo. IC₅₀ Value:Target: mAChRin vitro: Carbachol-induced contractions of isolated guinea pig bladder were effectively inhibited by tolterodine (IC₅₀ 14 nM) and

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5-HM (IC₅₀ 5.7 nM). The IC₅₀ values were in the microM range and the antimuscarinic potency of tolterodine was 27, 200 and 370-485 times higher, respectively, than its potency in blocking histamine receptors, alpha-adrenoceptors and calcium channels. The active metabolite, 5-HM, was >900 times less potent at these sites than at bladder muscarinic receptors [1]. *in vivo*: Tolterodine was extensively metabolized *in vivo* [2]. In the passive-avoidance test, tolterodine at 1 or 3 mg/kg had no effect on memory; the latency to cross and percentage of animals crossing were comparable to controls. In contrast, scopolamine induced a memory deficit; the latency to cross was decreased, and the number of animals crossing was increased [3].

References:

- [1]. Nilvebrant L. Tolterodine and its active 5-hydroxymethyl metabolite: pure muscarinic receptor antagonists. *Pharmacol Toxicol.* 2002 May;90(5):260-7.
- [2]. Andersson SH, et al. Biotransformation of tolterodine, a new muscarinic receptor antagonist, in mice, rats, and dogs. *Drug Metab Dispos.* 1998 Jun;26(6):528-35.
- [3]. Cappon GD, et al. Tolterodine does not affect memory assessed by passive-avoidance response test in mice. *Eur J Pharmacol.* 2008 Jan 28;579(1-3):225-8.

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