

PRODUCT INFORMATION



rac-Tolterodine-d₁₄ (tartrate)

Item No. 33281

Formal Name: 2-[3-[bis[1-(methyl-d₃)ethyl-1,2,2,2-d₄] amino]-1-phenylpropyl]-4-methyl-phenol, 2,3-dihydroxybutanedioate

Synonym: PNU 200583E-d₁₄

MF: C₂₂H₁₇D₁₄NO • C₄H₆O₆

FW: 489.7

Chemical Purity: ≥98% (Tolterodine (tartrate))

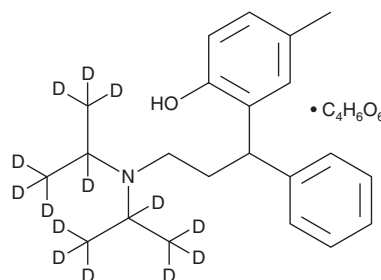
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₁₄); ≤1% d₀

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

rac-Tolterodine-d₁₄ (tartrate) is intended for use as an internal standard for the quantification of tolterodine (Item No. 15027) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

rac-Tolterodine-d₁₄ (tartrate) is supplied as a solid. A stock solution may be made by dissolving the *rac*-tolterodine-d₁₄ (tartrate) in the solvent of choice, which should be purged with an inert gas. *rac*-Tolterodine-d₁₄ (tartrate) is soluble in methanol and DMSO.

Description

Tolterodine is an antagonist of muscarinic acetylcholine receptors ($K_{i,s}$ = 1.4, 2.7, 3.6, 3.1, and 2.2 nM for M₁₋₅ receptors, respectively).¹ It reduces intracellular calcium mobilization induced by carbachol (carbamoylcholine; Item No. 14486) in bladder smooth muscle cells and submandibular gland cells isolated from cynomolgus monkeys ($K_{i,s}$ = 3.16 and 2 nM, respectively).² Tolterodine inhibits volume-induced bladder contractions and oxotremorine-induced salivation in rats (ID₅₀s = 0.025 and 0.12 mg/kg, respectively).³ Formulations containing tolterodine have been used in the treatment of overactive bladder.

References

1. Jones, L.H., Randall, A., Napier, C., *et al.* Design and synthesis of a fluorescent muscarinic antagonist. *Bioorg. Med. Chem. Lett.* **18**(2), 825-827 (2008).
2. Kobayashi, S., Ikeda, K., and Miyata, K. Comparison of *in vitro* selectivity profiles of solifenacin succinate (YM905) and current antimuscarinic drugs in bladder and salivary glands: A Ca²⁺ mobilization study in monkey cells. *Life Sci.* **74**(7), 843-853 (2004).
3. McNamara, A., Pulido-Rios, M.T., Sweazey, S., *et al.* Pharmacological properties of TD-6301, a novel bladder selective muscarinic receptor antagonist. *Eur. J. Pharmacol.* **605**(1-3), 145-152 (2009).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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