

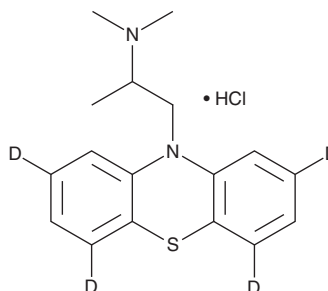
PRODUCT INFORMATION



Promethazine-d₄ (hydrochloride)

Item No. 40321

CAS Registry No.: 1173018-74-0
Formal Name: N,N,α-trimethyl-10H-phenothiazine-10-ethanamine-d₄, monohydrochloride
MF: C₁₇H₁₆D₄N₂S • HCl
FW: 324.9
Chemical Purity: ≥98% (Promethazine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤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

Promethazine-d₄ (hydrochloride) is intended for use as an internal standard for the quantification of promethazine (Item No. 16478) 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).

Promethazine-d₄ (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the promethazine-d₄ (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Promethazine-d₄ (hydrochloride) is soluble in DMSO and dimethyl formamide.

Description

Promethazine is a first-generation histamine H₁ receptor antagonist (K_i = 0.98 nM for the human receptor).¹ It is selective for histamine H₁ over H₃ and H₄ receptors (K_is = >100 and 77.6 μM, respectively, for the human receptors). Promethazine also binds muscarinic acetylcholine receptors (mAChRs; K_i = 22 nM).² It inhibits histamine-induced paw edema and acetic acid-induced writhing in mice (ED₅₀s = 5.9 and 11.8 mg/kg, respectively).³ Promethazine (32 mg/kg) decreases the number of motion-induced vomiting episodes in *S. murinus*.⁴

References

1. Appl, H., Holzammer, T., Dove, S., *et al.* Interactions of recombinant human histamine H₁, H₂, H₃, and H₄ receptors with 34 antidepressants and antipsychotics. *Naunyn-Schmiedeberg's Arch. Pharmacol.* **385**(2), 145-170 (2012).
2. Kubo, N., Shirakawa, S., Kuno, T., *et al.* Antimuscarinic effects of antihistamines: Quantitative evaluation by receptor-binding assay. *Jpn. J. Pharmacol.* **43**(3), 277-282 (1987).
3. Barnett, A., Iorio, L.C., Kreutner, W., *et al.* Evaluation of the CNS properties of SCH 29851, a potential non-sedating antihistamine. *Agents Actions* **43**(3-4), 149-156 (1994).
4. Nakayama, H., Yamakuni, H., Higaki, M., *et al.* Antiemetic activity of FK1052, a 5-HT₃- and 5-HT₄-receptor antagonist, in *Suncus murinus* and ferrets. *J. Pharmacol. Sci.* **98**(4), 396-403 (2005).

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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