

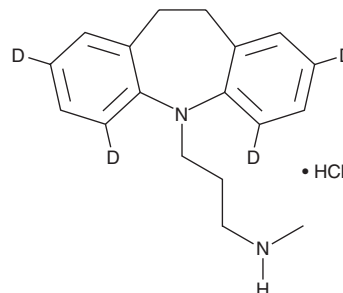
PRODUCT INFORMATION



Desipramine-d₄ (hydrochloride)

Item No. 36849

CAS Registry No.: 61361-34-0
Formal Name: 10,11-dihydro-N-methyl-5H-dibenz[b,f]azepine-2,4,6,8-d₄-5-propanamine, monohydrochloride
Synonyms: Demethylimipramine-d₄, Desimipramine-d₄, Desmethylinipramine-d₄, DMI-d₄
MF: C₁₈H₁₈D₄N₂ • HCl
FW: 306.9
Chemical Purity: ≥98% (Desipramine)
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

Desipramine-d₄ (hydrochloride) is intended for use as an internal standard for the quantification of desipramine 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).

Description

Desipramine is a tricyclic antidepressant and an active metabolite of imipramine (Item No. 15890).¹ It inhibits the serotonin (5-HT) and norepinephrine transporters (K_s = 163 and 3.5 nM for human SERT and NET, respectively) and is an antagonist of the 5-HT receptor subtype 5-HT_{2A} and the α₁-adrenergic receptor (α₁-AR), as well as histamine H₁ and muscarinic acetylcholine receptors (mAChRs; K_s = 115, 23, 31, and 37 nM, respectively). Desipramine is selective for the 5-HT_{2A} receptor over the 5-HT_{1A} receptor (K_i = 2,272 nM) and for α₁-AR over α₂-AR (K_i = 1,379 nM). It also selectively inhibits G protein-activated inward rectifier potassium channel (GIRK), also known as K_{ir}3, currents in *Xenopus* oocytes expressing human GIRK1 and GIRK2 or human GIRK1 and GIRK4 (IC₅₀s = 36.4 and 53.9 μM, respectively) over K_{ir}1.1 or K_{ir}2.1 currents in *Xenopus* oocytes expressing the human channels (IC₅₀s = >100 μM for both).² Desipramine (3.2 mg/kg) decreases immobility time in the forced swim test in mice.³ It also decreases flinching, as well as paw biting and licking, in the second phase of the formalin test in rats.⁴ Formulations containing desipramine have been used in the treatment of depression.

References

- Owens, M.J., Neal, W., Plott, S.J., *et al.* *J. Pharmacol. Exp. Ther.* **283**(3), 1305-1322 (1997).
- Kobayashi, T., Washiyama, K., and Ikeda, K. *Neuropsychopharmacology* **29**(10), 1841-1851 (2004).
- Koek, W., Sandoval, T.L., and Daws, L.C. *Behav. Pharmacol.* **29**(5), 453-456 (2018).
- Swaynok, J., Esser, M.J., and Reid, A.R. *Pain* **82**(2), 149-158 (1999).

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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