

PRODUCT INFORMATION



Trimipramine-d₃ (maleate)

Item No. 31919

Formal Name: 3-(10,11-dihydro-5H-dibenzo[b,f]azepin-5-yl)-N,2-dimethyl-N-(methyl-d₃)propan-1-amine, (2Z)-2-butenedioate

MF: C₂₀H₂₃D₃N₂ • C₄H₄O₄

FW: 413.5

Chemical Purity: ≥98% Trimipramine (maleate)

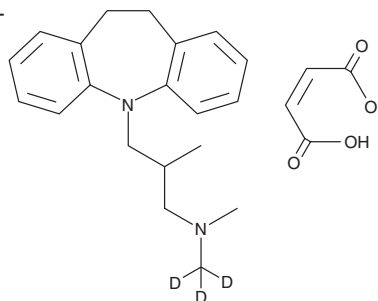
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₃); ≤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

Trimipramine-d₃ (maleate) is intended for use as an internal standard for the quantification of trimipramine (maleate) (Item No. 15921) 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).

Trimipramine-d₃ (maleate) is supplied as a solid. A stock solution may be made by dissolving the trimipramine-d₃ (maleate) in the solvent of choice, which should be purged with an inert gas. Trimipramine-d₃ (maleate) is soluble in methanol and DMSO.

Description

Trimipramine is a tricyclic antidepressant.¹⁻³ It selectively binds the serotonin (5-HT) transporter (SERT) over the norepinephrine transporter (NET) and dopamine transporter (DAT; K_ds = 149, 2,450, and 3,780 nM, respectively) and acts as a histamine H₁ receptor antagonist (K_i = 0.02 μM) that is selective for histamine H₁ over H₂, H₃, and H₄ receptors (K_s = 0.04, >100, and 43.6 μM, respectively).^{1,2} Trimipramine binds to muscarinic acetylcholine and α₁- and α₂-adrenergic receptors (K_ds = 58, 24, and 580 nM, respectively), as well as dopamine D₁ and D₂ receptors and 5-HT receptor subtypes 5-HT_{1C} and 5-HT₂ (K_s = 346.7, 57.5, 537, and 19.5 nM, respectively).^{1,3} It reduces immobility time in the forced swim test in rats when administered at a dose of 10 mg/kg.⁴ Formulations containing trimipramine have previously been used in the treatment of depression.

References

1. Richelson, E. and Nelson, A. Antagonism by antidepressants of neurotransmitter receptors of normal human brain *in vitro*. *J. Pharmacol. Exp. Ther.* **230**(1), 94-102 (1984).
2. 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).
3. Gross, G., Xin, X., and Gastpar, M. Trimipramine: Pharmacological reevaluation and comparison with clozapine. *Neuropharmacology* **30**(11), 1159-1166 (1991).
4. Delini-Stula, A., Radeke, E., and van Riezen, H. Enhanced functional responsiveness of the dopaminergic system—the mechanism of anti-immobility effects of antidepressants in the behavioural despair test in the rat. *Neuropharmacology* **27**(9), 943-947 (1988).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/09/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM