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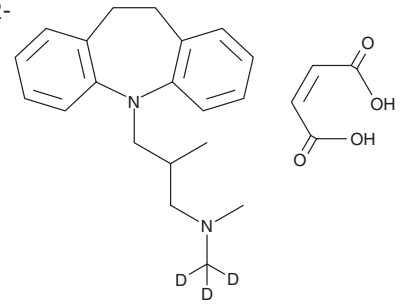
PRODUCT INFORMATION

Trimipramine-d_3 (maleate)

Item No. 31919

Formal Name:	3-(10,11-dihydro-5H-dibenzo[b,f]azepin-5-yl)-N,2-dimethyl-N-(methyl-d_3)propan-1-amine, (2Z)-2-butenedioate
MF:	$C_{20}H_{23}D_3N_2 \bullet C_4H_4O_4$
FW:	413.5
Chemical Purity:	≥98% Trimipramine (maleate)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Trimipramine-d_3 (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-d_3 (maleate) is supplied as a solid. A stock solution may be made by dissolving the trimipramine-d_3 (maleate) in the solvent of choice, which should be purged with an inert gas. Trimipramine-d_3 (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 H_1 receptor antagonist (K_i = 0.02 µM) that is selective for histamine H_1 over H_2, H_3, and H_4 receptors (K_is = 0.04, >100, and 43.6 µM, respectively).[1,2] Trimipramine binds to muscarinic acetylcholine and α_1- and α_2-adrenergic receptors (K_ds = 58, 24, and 580 nM, respectively), as well as dopamine D_1 and D_2 receptors and 5-HT receptor subtypes 5-HT_{1C} and 5-HT_2 (K_is = 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

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2. Appl, H., Holzammer, T., Dove, S., *et al*. Interactions of recombinant human histamine H_1, H_2, H_3, and H_4 receptors with 34 antidepressants and antipsychotics. Naunyn-Schmiedebergs 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).

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