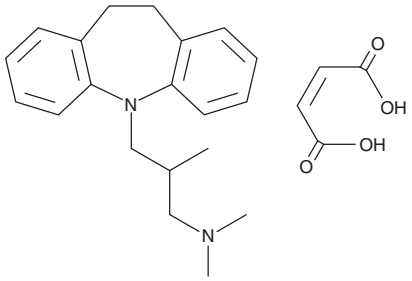
PRODUCT INFORMATION

Trimipramine (maleate)

Item No. 15921

CAS Registry No.:	521-78-8
Formal Name:	10,11-dihydro-N,N,β-trimethyl-5H-dibenz[b,f] azepine-5-propanamine, (2Z)-2-butenedioate
MF:	$C_{20}H_{26}N_2 \bullet C_4H_4O_4$
FW:	410.5
Purity:	≥95%
UV/Vis.:	λ_{max}: 211, 248 nm
Supplied as:	A crystalline 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 (maleate) is supplied as a crystalline solid. A stock solution may be made by dissolving the trimipramine (maleate) in the solvent of choice, which should be purged with an inert gas. Trimipramine (maleate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of trimipramine (maleate) in these solvents is approximately 3 mg/ml in ethanol and 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of trimipramine (maleate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of trimipramine (maleate) in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

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

1. Richelson, E. and Nelson, A. *J. Pharmacol. Exp. Ther.* **230(1)**, 94-102 (1984).
2. Appl, H., Holzammer, T., Dove, S., *et al. Naunyn-Schmiedebergs Arch. Pharmacol.* **385(2)**, 145-170 (2012).
3. Gross, G., Xin, X., and Gastpar, M. *Neuropharmacology* **30(11)**, 1159-1166 (1991).
4. Delini-Stula, A., Radeke, E., and van Riezen, H. *Neuropharmacology* **27(9)**, 943-947 (1988).

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