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<sub>20</sub>H<sub>26</sub>N<sub>2</sub> • C<sub>4</sub>H<sub>4</sub>O<sub>4</sub>
FW: 410.5
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ<sub>max</sub>: 211, 248 nm

Laboratory Procedures

For long term storage, we suggest that trimipramine (maleate) be stored as supplied at -20°C. It should be stable for at least two years.

Trimipramine (maleate) is supplied as a crystalline solid. A stock solution may be made by dissolving the trimipramine (maleate) in the solvent of choice. Trimipramine (maleate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. 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 (maleate) is a tricyclic antidepressant compound that antagonizes several types of neurotransmitter receptors. It is a potent antagonist of histamine H<sub>1</sub> (K<sub>d</sub> = 0.27 nM), serotonin 5-HT<sub>2A</sub>, and α<sub>1</sub>-adrenergic (K<sub>d</sub> = 24 nM) receptors. It demonstrates moderate antagonist activity at dopamine D<sub>2</sub> (K<sub>d</sub> = 180 nM) and muscarinic acetylcholine (K<sub>d</sub> = 58 nM) receptors and weak activity at 5-HT<sub>2C</sub>, D<sub>1</sub>, α<sub>2</sub>-adrenergic (K<sub>d</sub> = 680 nM) receptors. Trimipramine (maleate) is a weak to moderate reuptake inhibitor of serotonin (K<sub>i</sub> = 149 nM for SERT), and an extremely weak inhibitor of norepinephrine (K<sub>i</sub> = 2.5 µM for NET) and dopamine (K<sub>i</sub> = 3.8 µM for DAT) reuptake in slices of rat cerebral cortex.

References