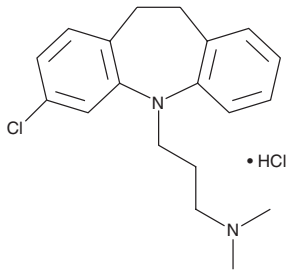
PRODUCT INFORMATION

Clomipramine (hydrochloride)

Item No. 15884

CAS Registry No.:	17321-77-6
Formal Name:	3-chloro-10,11-dihydro-N,N-dimethyl-5H-dibenz[b,f]azepine-5-propanamine, monohydrochloride
MF:	$C_{19}H_{23}ClN_2 \bullet HCl$
FW:	351.3
Purity:	≥98%
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

Clomipramine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the clomipramine (hydrochloride) in the solvent of choice. Clomipramine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of clomipramine (hydrochloride) in ethanol and DMSO is approximately 10 mg/ml and approximately 3 mg/ml in 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 clomipramine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of clomipramine (hydrochloride) in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Clomipramine is a tricyclic antidepressant, the 3-chlorinated derivative of imipramine (Item No. 15890).[1] Like imipramine, clomipramine potently inhibits serotonin and norepinephrine reuptake (K_is = 7.4 and 96 nM, respectively).[2,3] It also is an antagonist at histamine, muscarinic acetylcholine, α_1-adrenergic, and dopamine receptors (K_ds = 31, 37, 38, and 190 nM for H_1, M_1, α_1, and D_2, respectively).[4]

References

1. Spencer, P.S. Review of the pharmacology of existing antidepressants. *Br. J. Clin. Pharmacol.* **4(Suppl 2)**, 57S-68S (1977).
2. Hrdina, P.D. Pharmacology of serotonin uptake inhibitors: Focus on fluvoxamine. *J. Psychiatry Neurosci.* **16(2 Suppl. 1)**, 10-18 (1991).
3. Tatsumi, M., Groshan, K., Blakely, R.D., *et al*. Pharmacological profile of antidepressants and related compounds at human monoamine transporters. *Eur. J. Pharmacol.* **340(2-3)**, 249-258 (1997).
4. 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).

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