



LKT Laboratories, Inc.

Clomipramine Hydrochloride

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Product Information

Product ID C4457

CAS No. 17321-77-6

Chemical Name

Synonym

Formula $C_{19}H_{23}ClN_2 \cdot HCl$

Formula Wt. 351.32

Melting Point 189-190° C

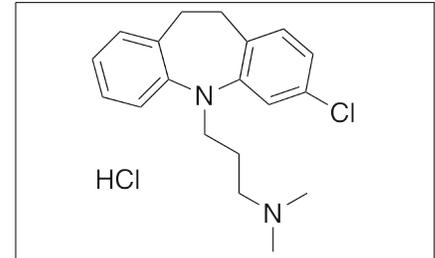
Purity $\geq 98\%$

Solubility Soluble in water (125 mg/ml), ethanol (70 mg/ml at 25° C), chloroform (1:3), DMSO (70 mg/ml at 25° C), and dilute aqueous acid

Store Temp Ambient

Ship Temp Ambient

Description Clomipramine hydrochloride displays antidepressant and anxiolytic activity and may also be used to treat narcolepsy and obsessive-compulsive disorder (OCD). This compound inhibits serotonin transporters (SERT), norepinephrine transporters (NET), histamine receptors, muscarinic acetylcholine receptors (mAChRs), $\alpha 1/2$ -adrenergic receptors, and 5-HT_{2/3/6/7} receptors. Clomipramine hydrochloride also inhibits L-type Ca²⁺ channels and exhibits antinociceptive activity in animal models of thermal and mechanical pain stimulation. Additionally, this compound may prolong the cardiac QT interval through its ability to decrease current amplitude from hERG K⁺ channels. Clomipramine also acts as a functional inhibitor of acid sphingomyelinase (FIASMA).



Bulk quantities available upon request

Product ID	Size
C4457	1 g
C4457	5 g

References Kostadinov ID, Delev DP, Kostadinova II. Antinociceptive effect of clomipramine through interaction with serotonin 5-HT₂ and 5-HT₃ receptor subtypes. *Folia Med (Plovdiv)*. 2012 Oct-Dec;54(4):69-77. PMID: 23441472.

Jo SH, Hong HK, Chong SH, et al. Clomipramine block of the hERG K⁺ channel: accessibility to F656 and Y652. *Eur J Pharmacol*. 2008 Sep 11;592(1-3):19-25. PMID: 18634780.

Zahradnik I, Minarovic I, Zahradniková A. Inhibition of the cardiac L-type calcium channel current by antidepressant drugs. *J Pharmacol Exp Ther*. 2008 Mar;324(3):977-84. PMID: 18048694.

Millan MJ, Gobert A, Lejeune F, et al. S33005, a novel ligand at both serotonin and norepinephrine transporters: I. Receptor binding, electrophysiological, and neurochemical profile in comparison with venlafaxine, reboxetine, citalopram, and clomipramine. *J Pharmacol Exp Ther*. 2001 Aug;298(2):565-80. PMID: 11454918.

Greist JH, Jefferson JW, Kobak KA, et al. Efficacy and tolerability of serotonin transport inhibitors in obsessive-compulsive disorder. A meta-analysis. *Arch Gen Psychiatry*. 1995 Jan;52(1):53-60. PMID: 7811162.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.