

Product Data Sheet

Product Name: Clomipramine

Cat. No.: GF15102

Chemical Properties

Cas. No. 303-49-1

Formula C₁₉H₂₃ClN₂

M.Wt 314.85

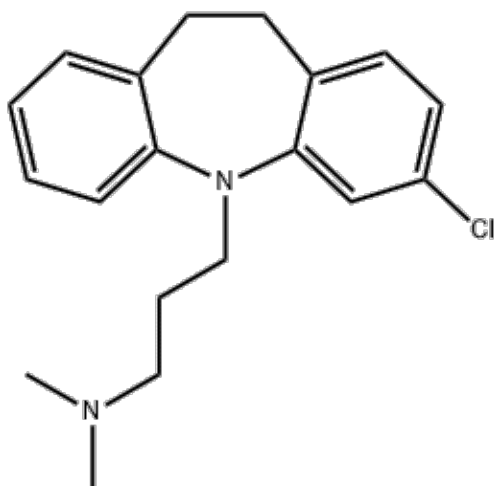
Solubility DMSO : 100 mg/mL (317.61 mM;
Need ultrasonic)

Storage Store at RT, away from moisture,
sealed storage

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Caution: Product has not been fully validated for medical applications. For research use only.

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Background

Clomipramine (Chlorimipramine) is a potent 5-HT reuptake blocker with the IC₅₀ value of 1.5 nM. Clomipramine is a tricyclic antidepressant that can be used for the research of depression and obsessive compulsive disorder (OCD).

Clomipramine can inhibit reuptake of both noradrenaline and 5-HT, although Clomipramine inhibits 5-HT reuptake more strongly than it inhibits noradrenaline reuptake^[1].

The antidepressant Clomipramine inhibits both venom AChE as well as human serum BChE in a concentration-dependent manner but has no effect on AChE in the rat brain striatum^[2]. Clomipramine interferes with the autophagic flux and severely compromises the viability of tumorigenic cells upon cytotoxic stress^[3].

Clomipramine reduces autophagy in neuronal primary cultures. Clomipramine (1 and 5 μ M) negatively regulates neuronal autophagic pathway in primary cultured cells^[3].

Clomipramine (5-20 mg/kg; i.p) elicits significant hyperglycemia in mice. Clomipramine induces hyperglycemia in mice by blocking the 5-HT_{2B} and/or 5-HT_{2C} receptors, which results in facilitation of adrenaline release. In mice, Clomipramine reduces immobility in the forced swimming test, which is the behavioral model for antidepressants. Clomipramine also inhibits the OCD animal model, marble burying behavior in mice^[1]. Clomipramine (20 μ g/kg) decreases autophagic flux in murine tissues^[3].

[1]. Yumi Sugimoto, et al. The tricyclic antidepressant Clomipramine increases plasma glucose levels of mice. J Pharmacol Sci. 2003 Sep;93(1):74-9.

[2]. Mushtaq Ahmed, et al. Comparative study of the inhibitory effect of antidepressants on cholinesterase activity in *Bungarus sindanus* (krait) venom, human serum and rat striatum. J Enzyme Inhib Med Chem. 2008 Dec;23(6):912-7.

[3]. Federica Cavaliere, The tricyclic antidepressant Clomipramine inhibits neuronal autophagic flux. Sci Rep. 2019 Mar 19;9(1):4881.

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