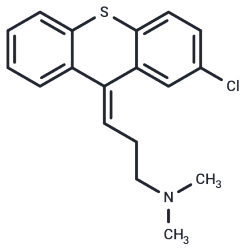
Data Sheet (Cat.No.T0074)

TargetMol

Chlorprothixene

Chemical Properties



CAS No. : 113-59-7

Formula: C18H18ClNS

Molecular Weight: 315.86

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Chlorprothixene (Truxal) is a typical antipsychotic drug of the thioxanthene class, which was the first of the series to be synthesized.
Targets(IC50)	5-HT Receptor,Antibacterial,Histamine Receptor,Dopamine Receptor
In vitro	When Chlorprothixene acts on the brain, it inhibits the postsynaptic mesolimbic dopamine D1 and D2 receptors, reducing the release of hypothalamic and pituitary hormones. In mouse brains, Chlorprothixene reduces levels of 5HT, NE, and DA. At high doses, Chlorprothixene's effect on adrenal medulla and brain tissue can inhibit the action of nicotinic acid isopropylhydrazine, inducing the release of catecholamines for protective purposes. Additionally, Chlorprothixene has an inhibitory effect on acidic sphingomyelin in murine bronchial epithelial cells, promoting the repair of neuronal myelin concentration, thereby decreasing the incidence of inflammatory responses in mice with cystic fibrosis and also preventing infection by Pseudomonas aeruginosa.
In vivo	Chlorprothixene induces Vero 76 cells, resulting in inhibited replication of SARS-CoV. It exhibits high affinity for the murine 5-HT6 receptor in stably transfected HEK-293 cells, with a Ki value of 3 nM, and for the transiently expressed murine 5-HT7 receptor in COS-7 cells, with a Ki value of 5.6 nM. Chlorprothixene has a strong binding affinity to histamine and dopamine receptors including D1, D2, D3, D5, and H1, with Ki values of 18 nM, 2.96 nM, 4.56 nM, 9 nM, and 3.75 nM, respectively. However, its affinity for the H3 receptor is weak, with a Ki value greater than 1000 nM.

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 23.64 mg/mL (74.84 mM),Sonication is recommended. Ethanol: 36.43 mg/mL (115.34 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (3.17 mM),Sonication is recommended. 10% DMSO+90% Saline: 2.36 mg/mL (7.47 mM),Suspension. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.166 mL	15.8298 mL	31.6596 mL
5 mM	0.6332 mL	3.166 mL	6.3319 mL
10 mM	0.3166 mL	1.583 mL	3.166 mL
50 mM	0.0633 mL	0.3166 mL	0.6332 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

von Coburg Y, et al. Bioorg Med Chem Lett. 2009, 19 (2), 538-542.
Roth BL, et al. J Pharmacol Exp Ther. 1994, 268 (3), 1403-1410.
Barnard DL, et al. Antiviral Res. 2008, 79 (2), 105-113.
GEY KF, et al. J Pharmacol Exp Ther. 1961, 133, 18-24.
Becker KA, et al. Am J Respir Cell Mol Biol, 2010, 42(6), 716-724.