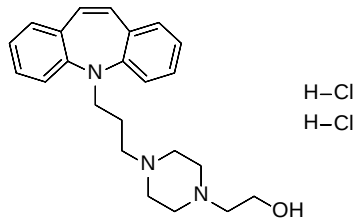
Product data sheet

MedKoo Cat#: 575747 Name: Opipramol hydrochloride CAS: 909-39-7 (HCl) Chemical Formula: $C_{23}H_{31}Cl_2N_3O$ Exact Mass: 435.1844 Molecular Weight: 436.421	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
Opipramol hydrochloride is an atypical anxiolytic and antidepressant drug chemically similar to tricyclic antidepressants. Opipramol mainly acts on sigma receptors such as histamine, serotonin, dopamine and alpha-1 adrenergic receptors.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.29 mL	11.46 mL	22.91 mL
5 mM	0.46 mL	2.29 mL	4.58 mL
10 mM	0.23 mL	1.15 mL	2.29 mL
50 mM	0.05 mL	0.23 mL	0.46 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Iglesias-Osma MC, García-Barrado MJ, Hernandez-Gonzalez D, Perrier K, Viana P, Carpéné C. The anxiolytic drug opipramol inhibits insulin-induced lipogenesis in fat cells and insulin secretion in pancreatic islets. J Physiol Biochem. 2023 Feb 23. doi: 10.1007/s13105-023-00950-8. Epub ahead of print. PMID: 36821072.

2. Carpéné C, Les F, Mercader J, Gomez-Zorita S, Grolleau JL, Boulet N, Fontaine J, Iglesias-Osma MC, Garcia-Barrado MJ. Opipramol Inhibits Lipolysis in Human Adipocytes without Altering Glucose Uptake and Differently from Antipsychotic and Antidepressant Drugs with Adverse Effects on Body Weight Control. Pharmaceuticals (Basel). 2020 Mar 5;13(3):41. doi: 10.3390/ph13030041. PMID: 32151075; PMCID: PMC7151722.

In vivo study

1. Bareli T, Ahdoot HL, Ben-Moshe H, Barnea R, Warhaftig G, Maayan R, Roska P, Weizman A, Yadid G. Chronic opipramol treatment extinguishes cocaine craving through Rac1 in responders: A rat model study. Addict Biol. 2021 Sep;26(5):e13014. doi: 10.1111/adb.13014. Epub 2021 Jan 28. PMID: 33508873.

2. Rao TS, Cler JA, Mick SJ, Dilworth VM, Contreras PC, Iyengar S, Wood PL. Neurochemical characterization of dopaminergic effects of opipramol, a potent sigma receptor ligand, in vivo. Neuropharmacology. 1990 Dec;29(12):1191-7. doi: 10.1016/0028-3908(90)90044-r. PMID: 1963476.

Product data sheet

7. Bioactivity

Biological target:

Opipramol hydrochloride is an atypical anxiolytic and antidepressant drug chemically similar to tricyclic antidepressants.

In vitro activity

To examine whether opipramol reproduces or impairs other actions of insulin, its direct effects on glucose transport, lipogenesis and lipolysis were investigated in adipocytes while its influence on insulin secretion was studied in pancreatic islets. At 100 μM, opipramol also inhibited the glucose incorporation into lipids without limiting the glucose transport in mouse adipocytes. In pancreatic islets, opipramol acutely impaired the stimulation of insulin secretion by various activators (high glucose, high potassium, forskolin...).

Reference: J Physiol Biochem. 2023 Feb 23. https://pubmed.ncbi.nlm.nih.gov/36821072/

In vivo activity

Opipramol potently increased the metabolism of dopamine in the striatum, olfactory tubercle and pyriform cortex of the rat and increased the release of dopamine from the striatum of the mouse, as measured by increases in the levels of 3-methoxytyramine in vivo. Opipramol increased plasma prolactin in the rat, only at a dose as large as 50 mg/kg dose. Irreversible inactivation of dopamine receptors by EEDQ (N-ethoxycarbonyl-2-ethoxy-1,2-dihydroquinoline) did not affect the opipramol-induced increases in levels of dihydroxyphenylacetic acid (DOPAC) in the striatum of the rat, indicating a predominant role of activation of sigma receptors in the dopaminergic effects of opipramol. However, pretreatment with the putative sigma ligand, rimcazole, markedly potentiated the ability of opipramol to increase the metabolism of release of DA in the striatum of the mouse in vivo.

Reference: Neuropharmacology. 1990 Dec;29(12):1191-7. https://pubmed.ncbi.nlm.nih.gov/1963476/