

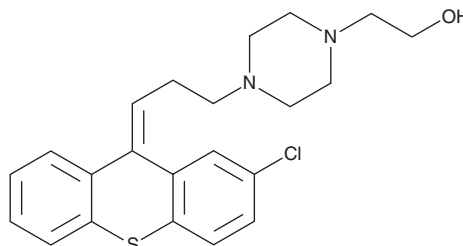
# PRODUCT INFORMATION



## Zuclopenthixol

Item No. 24961

**CAS Registry No.:** 53772-83-1  
**Formal Name:** 4-[(3Z)-3-(2-chloro-9H-thioxanthen-9-ylidene)propyl]-1-piperazineethanol  
**Synonyms:** Cisordinol, cis-Clopenthixol  
**MF:** C<sub>22</sub>H<sub>25</sub>ClN<sub>2</sub>OS  
**FW:** 401.0  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 206, 232, 272 nm  
**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

Zuclopenthixol is supplied as a crystalline solid. A stock solution may be made by dissolving the zuclopenthixol in the solvent of choice, which should be purged with an inert gas. Zuclopenthixol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of zuclopenthixol in ethanol is approximately 2.5 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Zuclopenthixol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, zuclopenthixol should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Zuclopenthixol has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Zuclopenthixol is a dopamine receptor antagonist ( $K_i$ s = 9.8 and 1.5 nM for D<sub>1</sub> and D<sub>2</sub> receptors, respectively).<sup>1</sup> It also binds to serotonin (5-HT) receptor subtypes 5-HT<sub>2</sub> and 5-HT<sub>6</sub>, α<sub>1</sub>-adrenergic, and histamine receptors ( $K_i$ s = 7.6, 3, 33, and 169 nM, respectively) but not α<sub>2</sub>-adrenergic receptors ( $K_i$  = >4,300 nM).<sup>1,2</sup> Zuclopenthixol inhibits dopamine-induced accumulation of cAMP in rat striatal homogenates (IC<sub>50</sub> = 330 nM;  $K_i$  = 16 nM).<sup>2</sup> It decreases stereotypic behavior induced by methylphenidate in mice (ED<sub>50</sub> = 0.8 μmol/kg) and by apomorphine in rats and dogs (ED<sub>50</sub>s = 6.0 and 1.3 μmol/kg, respectively). Zuclopenthixol (0.7 and 1.4 mg/kg, i.p.) administered prior to testing enhances memory retrieval in rats in an inhibitory avoidance task without affecting locomotor activity.<sup>3</sup>

### References

1. Hajjo, R., Setola, V., Roth, B.L., et al. Chemocentric informatics approach to drug discovery: Identification and experimental validation of selective estrogen receptor modulators as ligands of 5-hydroxytryptamine-6 receptors and as potential cognition enhancers. *J. Med. Chem.* **55**(12), 5704–5719 (2012).
2. Christensen, A.V., Arnt, J., Hyttel, J., et al. Pharmacological effects of a specific dopamine D-1 antagonist SCH 23390 in comparison with neuroleptics. *Life Sci.* **34**(16), 1529-1540 (1984).
3. Khalifa, A.E. Zuclopenthixol facilitates memory retrieval in rats: Possible involvement of noradrenergic and serotonergic mechanisms. *Pharmacol. Biochem. Behav.* **75**(4), 755-762 (2003).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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