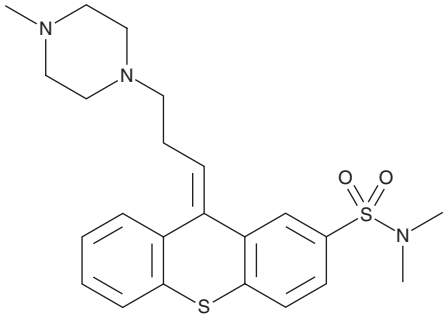
PRODUCT INFORMATION

Thiothixene

Item No. 23649

CAS Registry No.:	5591-45-7
Formal Name:	N,N-dimethyl-9-[3-(4-methyl-1-piperazinyl) propylidene]-9H-thioxanthene-2-sulfonamide
Synonyms:	CP 12,252-1, NSC 108165, P 4657B, *cis*-Thiothixene
MF:	$C_{23}H_{29}N_3O_2S_2$
FW:	443.6
Purity:	≥98%
UV/Vis.:	λ_{max}: 230, 307 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

Thiothixene is supplied as a crystalline solid. A stock solution may be made by dissolving the thiothixene in the solvent of choice, which should be purged with an inert gas. Thiothixene is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of thiothixene in these solvents is approximately 0.2 and 0.5 mg/ml, respectively.

Description

Thiothixene is a typical antipsychotic.[1] It selectively binds to dopamine D_2 over D_1, D_3, and D_4 receptors (K_is = 0.417, 338, 186.2, and 363.1 nM, respectively). Thiothixene also binds to various serotonin (5-HT), histamine H_1, α_1- and α_2-adrenergic, muscarinic acetylcholine, and sigma receptors (K_is = 15-5,754 nM) as well as the dopamine, norepinephrine, and serotonin transporters (K_is = 3.16-30 µM). *In vivo*, thiothixene reduces spontaneous and amphetamine-induced locomotor activity in rats.[2] It enhances latent inhibition, as measured by a decreased lick latency in response to light and foot shock stimuli, which is a measure of selective attention in rats.[3] Thiothixene also increases competitive behavior in submissive mice, indicating antidepressant-like behavior.[4] Formulations containing thiothixene have been used in the treatment of schizophrenia and bipolar mania.

References

1. Silvestre, J.S. and Prous, J. Research on adverse drug events. I. Muscarinic M_3 receptor binding affinity could predict the risk of antipsychotics to induce type 2 diabetes. *Methods Find. Exp. Clin. Pharmacol.* **27(5)**, 289-304 (2005).
2. Schaefer, G.J. and Michael, R.P. Drug interactions on spontaneous locomotor activity in rats. Neuroleptics and amphetamine-induced hyperactivity. *Neuropharmacology* **23(8)**, 909-914 (1984).
3. Dunn, L.A., Atwater, G.E., and Kilts, C.D. Effects of antipsychotic drugs on latent inhibition: Sensitivity and specificity of an animal behavioral model of clinical drug action. *Psychopharmacology (Berl).* **112(2-3)**, 315-323 (1993).
4. Malatynska, E., Rapp, R., Harrawood, D., *et al*. Submissive behavior in mice as a test for antidepressant drug activity. *Pharmacol. Biochem. Behav.* **82(2)**, 306-313 (2005).

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