



LKT Laboratories, Inc.

Thioridazine Hydrochloride

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Product Information

Product ID T2936

CAS No. 130-61-0

Chemical Name

Synonym

Formula $C_{21}H_{26}N_2S_2 \cdot HCl$

Formula Wt. 407.04

Melting Point 158-160°C

Purity $\geq 98\%$

Solubility

Store Temp Ambient

Ship Temp Ambient

Description Thioridazine is a piperadine phenothiazine derivative classified as a 'typical' antipsychotic for its potent inhibition of D2 receptors. Thioridazine displays activity at D1-5 receptors, H1/2 histamine receptors, M1-5 muscarinic acetylcholine receptors (mAChRs), $\alpha 1/2$ -adrenergic receptors, and 5-HT1/2/5/6/7 receptors; thioridazine also modulates activity of the norepinephrine transporter (NET). In addition to its well-established antipsychotic and sedative activities, thioridazine also exhibits antibacterial, anti-angiogenic, and anticancer properties. In vitro, thioridazine enhances β -lactam antibacterial capabilities; this compound inhibits peptidoglycan synthesis by interfering with the formation of pentaglycine branches and inducing amino acid shortages. Thioridazine inhibits phosphorylation of Akt, PDK-1, mTOR, and p70S6K, inhibiting migration, invasion, and capillary-like tube formation of cells. In cervical and endometrial cancer cells, thioridazine downregulates expression of cyclins D1 and A as well as cyclin-dependent kinase 4 (CDK4) and upregulates expression of p21 and p27, inducing apoptosis. In vivo, this compound decreases colony-forming units of *Mycobacterium tuberculosis*, inducing expression of the sigma6 regulon and Rv3160c-Rv3161c operon. Thioridazine, like other antipsychotics, also inhibits hERG K⁺ channels, potentially inducing QT prolongation and acts as a functional inhibitor of acid sphingomyelinase (FIASMA).

References Thorsing M, Klitgaard JK, Atilano ML, et al. Thioridazine induces major changes in global gene expression and cell wall composition in methicillin-resistant *Staphylococcus aureus* USA300. *PLoS One*. 2013 May 17;8(5):e64518. PMID: 23691239.

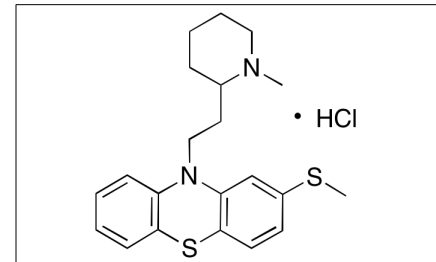
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Bulk quantities available upon request

Product ID	Size
T2936	500 mg
T2936	5 g
T2936	25 g

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.