

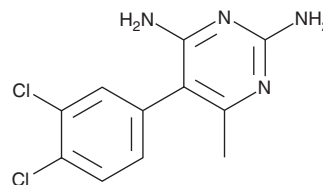
PRODUCT INFORMATION



Metoprine

Item No. 43098

CAS Registry No.: 7761-45-7
Formal Name: 5-(3,4-dichlorophenyl)-6-methyl-2,4-pyrimidinediamine
Synonyms: DDMP, NSC 7364, NSC 19494
MF: C₁₁H₁₀Cl₂N₄
FW: 269.1
Purity: ≥98%
Supplied as: A 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

Metoprine is supplied as a solid. A stock solution may be made by dissolving the metoprine in the solvent of choice, which should be purged with an inert gas. Metoprine is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in ethanol.

Description

Metoprine is an inhibitor of histamine N-methyltransferase (HNMT; IC₅₀ = 91 nM).¹ It is also an inhibitor of dihydrofolate reductase (Dhfr; IC₅₀s = 1, 1.6, and 60 μM for the chicken, rat, and *T. equiperdum* enzymes, respectively).² Metoprine (10 mg/kg) increases the levels of histamine in mouse cerebral cortex, diencephalon, midbrain, and pons medulla.³ It decreases the duration of tonic and clonic convulsions in a mouse model of electroshock-induced seizures when administered at doses of 5 or 10 mg/kg. Metoprine (2 or 5 mg/kg) inhibits scopolamine-induced learning deficits in the passive avoidance test in mice.⁴

References

1. Horton, J.R., Sawada, K., Nishibori, M., *et al.* Structural basis for inhibition of histamine N-methyltransferase by diverse drugs. *J. Mol. Biol.* **353**(2), 334-344 (2005).
2. McCormack, J.J. and Jaffe, J.J. Dihydrofolate reductase from *Trypanosoma equiperdum*. II. Inhibition by 2,4-diaminopyrimidines and related heterocycles. *J. Med. Chem.* **12**(4), 662-668 (1969).
3. Yokoyama, H., Onodera, K., Maeyama, K., *et al.* Histamine levels and clonic convulsions of electrically-induced seizure in mice: the effects of α-fluoromethylhistidine and metoprine. *Naunyn Schmiedeberg's Arch. Pharmacol.* **346**(1), 40-45 (1992).
4. Malmberg-Aiello, P., Ipponi, A., Bartolini, A., *et al.* Antiamnesic effect of metoprine and of selective histamine H₁ receptor agonists in a modified mouse passive avoidance test. *Neurosci. Lett.* **288**(1), 1-4 (2000).

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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