

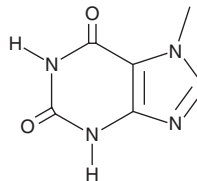
PRODUCT INFORMATION



7-Methylxanthine

Item No. 34348

CAS Registry No.: 552-62-5
Formal Name: 3,7-dihydro-7-methyl-1H-purine-2,6-dione
Synonyms: 7-MX, NSC 7861
MF: C₆H₆N₄O₂
FW: 166.1
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

7-Methylxanthine is supplied as a crystalline solid. A stock solution may be made by dissolving the 7-methylxanthine in the solvent of choice, which should be purged with an inert gas. 7-Methylxanthine is slightly soluble in ethanol and DMSO.

Description

7-Methylxanthine is an adenosine A₁ receptor antagonist and active metabolite of theobromine (Item No. 21745) and caffeine (Item No. 14118).^{1,2} It inhibits binding of the adenosine A₁ receptor agonist cyclohexyladenosine in rat cerebral cortical membranes in a concentration-dependent manner.² 7-Methylxanthine (300 mg/kg) inhibits eye elongation and reduces decreases in the diameter of scleral collagen fibrils in a guinea pig model of form-deprivation myopia.³

References

1. Cornish, H.H. and Christman, A.A. A study of the metabolism of theobromine, theophylline, and caffeine in man. *J. Biol. Chem.* **228**(1), 315-323 (1957).
2. Daly, J.W., Butts-Lamb, P., and Padgett, W. Subclasses of adenosine receptors in the central nervous system: Interaction with caffeine and related methylxanthines. *Cell. Mol. Neurobiol.* **3**(1), 69-80 (1983).
3. Cui, D., Trier, K., Zeng, J., et al. Effects of 7-methylxanthine on the sclera in form deprivation myopia in guinea pigs. *Acta. Ophthalmol.* **89**(4), 328-334 (2011).

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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