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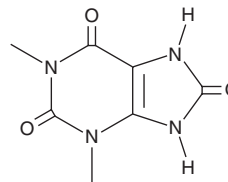
PRODUCT INFORMATION



1,3-Dimethyluric Acid

Item No. 36167

CAS Registry No.: 944-73-0
Formal Name: 7,9-dihydro-1,3-dimethyl-1H-purine-2,6,8(3H)-trione
Synonyms: Ba 2751, 1,3-DMU, 1,3-DMUA, NSC 95854
MF: C₇H₈N₄O₃
FW: 196.2
Purity: ≥98%
UV/Vis.: λ_{max}: 232, 289 nm
Supplied as: A 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

1,3-Dimethyluric acid is supplied as a solid. Aqueous solutions of 1,3-dimethyluric acid can be prepared by directly dissolving the solid in aqueous buffers. 1,3-Dimethyluric acid is slightly soluble in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

1,3-Dimethyluric acid is an active metabolite of the methylxanthine alkaloids caffeine (Item No. 14118) and theophylline (Item No. 23760).¹ It is formed from caffeine and theophylline by the cytochrome P450 (CYP) isoforms CYP1A2 and CYP2E1.^{2,3} 1,3-Dimethyluric acid (500 μM) scavenges hydroxyl radicals in a cell-free assay and inhibits *t*-butyl hydroperoxide-induced lipid peroxidation by 77% in isolated human erythrocyte membranes.⁴ It induces contractions in isolated rabbit duodenal, jejunal, and ileal preparations, but induces relaxation in isolated rabbit ascending colon preparations, in a concentration-dependent manner.⁵ Intracerebral administration of 1,3-dimethyluric acid induces clonic convulsions in mice (ED₅₀ = 360 nmol/animal).⁶ It has been found in urinary calculi.⁷

References

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3. Fuhr, U., Doehermer, J., Battula, N., *et al. Toxicology* **82**(1-3), 169-189 (1993).
4. Bhat, V.B., Sridhar, G.R., and Madyastha, K.M. *Life Sci.* **70**(4), 381-393 (2001).
5. Psarra, T.A., Batzias, G.C., Peeters, T.L., *et al. J. Vet. Pharmacol. Ther.* **30**(6), 541-519 (2007).
6. Yamamoto, K., Toyama, E., Kawakami, J., *et al. Biol. Pharm. Bull.* **19**(6), 869-872 (1996).
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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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