

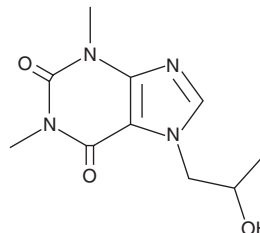
PRODUCT INFORMATION



Proxiphylline

Item No. 20937

CAS Registry No.: 603-00-9
Formal Name: 3,7-dihydro-7-(2-hydroxypropyl)-1,3-dimethyl-1H-purine-2,6-dione
Synonyms: Monophylline, NSC 163343
MF: C₁₀H₁₄N₄O₃
FW: 238.2
Purity: ≥98%
UV/Vis.: λ_{max}: 273, 324 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

Proxiphylline is supplied as a crystalline solid. A stock solution may be made by dissolving the proxiphylline in the solvent of choice, which should be purged with an inert gas. Proxiphylline is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of proxiphylline in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of proxiphylline can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of proxiphylline in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Proxiphylline is a methylxanthine derivative and an adenosine receptor antagonist ($K_i = 130 \mu\text{M}$).¹ It increases coronary flow in isolated guinea pig perfused heart.² Proxiphylline reduces systolic and diastolic blood pressure in spontaneously hypertensive rats when administered at a dose of 50 mg/kg twice per day for nine days.³ It reduces the thromboplastin activity of murine trophoblast cells when administered at a dose of 30 μg /animal intraperitoneally.⁴

References

1. Bruns, R.F. Adenosine antagonism by purines, pteridines and benzopteridines in human fibroblasts. *Biochem. Pharmacol.* **30(4)**, 325-333 (1981).
2. Takeda, K., Katano, Y., Nakagawa, Y., *et al.* Effects of aminophylline, proxiphylline and a proxiphylline-Melilotus extract-rutin mixture (theoesberiven) on the heart and the coronary circulation. *Jpn. J. Pharmacol.* **27(5)**, 709-720 (1977).
3. Korzycka, L. and Górska, D. Synthesis, pharmacological activity and nitric oxide generation by nitrate derivatives of theophylline *J. Pharm. Pharmacol.* **60(5)**, 637-645 (2008).
4. Dalaker, K. and Prydz, H. Effect of some drugs on thromboplastin activity in mouse trophoblast cells *in vitro* and *in vivo*. *Biochem. Pharmacol.* **35(20)**, 3433-3439 (1986).

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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