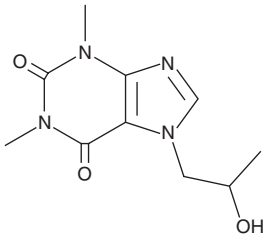
PRODUCT INFORMATION

Proxyphylline

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:	$C_{10}H_{14}N_4O_3$
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

Proxyphylline is supplied as a crystalline solid. A stock solution may be made by dissolving the proxyphylline in the solvent of choice, which should be purged with an inert gas. Proxyphylline is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of proxyphylline 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 proxyphylline can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of proxyphylline in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Proxyphylline is a methylxanthine derivative and an adenosine receptor antagonist (K_i = 130 µM).[1] It increases coronary flow in isolated guinea pig perfused heart.[2] Proxyphylline 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, proxyphylline and a proxyphylline-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).

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