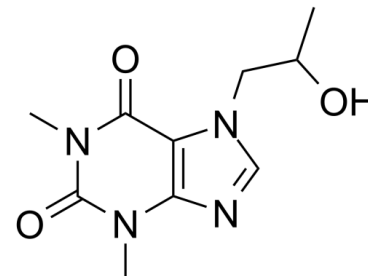


Data Sheet

Product Name:	Proxyphylline
Cat. No.:	CS-7727
CAS No.:	603-00-9
Molecular Formula:	C ₁₀ H ₁₄ N ₄ O ₃
Molecular Weight:	238.24
Target:	Adenosine Receptor
Pathway:	GPCR/G Protein
Solubility:	10 mM in DMSO



BIOLOGICAL ACTIVITY:

Proxyphylline is a methylxanthine derivative clinical used as cardiac stimulant, vasodilator and bronchodilator. **In Vitro:** Proxyphylline has shown vasodilatory and cardiac stimulatory effects. Proxyphylline produces an increase in the coronary flow associated with a definite positive inotropic effect^[1]. Proxyphylline inhibits tracheal PDE-activity and half-maximum relaxation of tracheal smooth muscle is obtained with 100 µg/mL proxyphylline^[2] **In Vivo:** In a double-blind cross-over study, proxyphylline exhibits bronchodilatory effect^[3]. Proxyphylline inhibits cAMP and cGMP hydrolysis in human lung tissue. The apparent inhibition constant of proxyphylline is 0.06–0.7 mM at low cAMP concentrations and it is 1.0 mM at high cAMP concentrations^[3].

References:

- [1]. Takeda K, et al. Effects of aminophylline, proxyphylline and a proxyphylline-Melilotus extract-rutin mixture(theoesberiven) on the heart and the coronary circulation. *Jpn J Pharmacol.* 1977 Oct;27(5):709-20.
- [2]. Kukovetz WR, et al. Overadditive synergism between theophylline, diprophylline and proxyphylline in tracheal smooth muscle relaxation. *Arzneimittelforschung.* 1983;33(10):1450-4.
- [3]. Rasmussen FV, et al. Pharmacokinetics and bronchodilatory effect of proxyphylline and theophylline. *Eur J Respir Dis.* 1984 Jan;65(1):20-7.
- [4]. Selvig K, et al. Inhibition of human lung cyclic nucleotide phosphodiesterases by proxyphylline, theophylline and their metabolites. *Acta Pharmacol Toxicol (Copenh).* 1982 Sep;51(3):250-2.

CAIndexNames:

1H-Purine-2,6-dione, 3,7-dihydro-7-(2-hydroxypropyl)-1,3-dimethyl-

SMILES:

O=C(N1C)N(C)C2=C(N(CC(O)C)C=N2)C1=O

Caution: Product has not been fully validated for medical applications. For research use only.

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