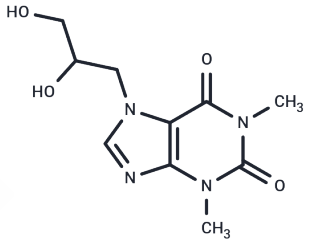
Data Sheet (Cat.No.T0892)

TargetMol

Diphylline

Chemical Properties



CAS No. :	479-18-5
Formula:	C10H14N4O4
Molecular Weight:	254.24
Storage:	Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Diphylline (Diprophylline) is a xanthine derivative. Diphylline exerts bronchodilator effects and to a lesser extent vasodilator and diuretic properties. Diphylline probably acts as a competitive inhibitor of phosphodiesterase which leads to an increase in intracellular cAMP. This results in relaxation of bronchial smooth muscle and other smooth muscles. Diphylline may also antagonize adenosinereceptors. Diphylline is used in the treatment of acute bronchial asthma, chronic bronchitis and emphysema.
Targets(IC50)	Adenosine Receptor,PDE

Solubility Information

Solubility	DMSO: 198 mg/mL (778.79 mM),Sonication is recommended. H2O: 47 mg/mL (184.86 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (39.33 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2.5 mg/mL (9.83 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9333 mL	19.6665 mL	39.3329 mL
5 mM	0.7867 mL	3.9333 mL	7.8666 mL
10 mM	0.3933 mL	1.9666 mL	3.9333 mL
50 mM	0.0787 mL	0.3933 mL	0.7867 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Schwabe U, et al. Naunyn Schmiedebergs Arch Pharmacol. 1985 Sep;330(3):212-21.
Zhang Z, Zhou H, Gu W, et al.CGI1746 targets σ1R to modulate ferroptosis through mitochondria-associated membranes.Nature Chemical Biology.2024: 1-11.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481