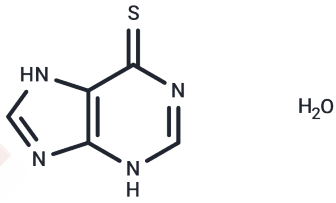
Data Sheet (Cat.No.T2201)

TargetMol

6-Mercaptopurine hydrate

Chemical Properties



CAS No. : 6112-76-1

Formula: C5H6N4OS

Molecular Weight: 170.19

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	6-Mercaptopurine hydrate (6-Mercaptopurine monohydrate) is a Nucleoside Metabolic Inhibitor. It interferes with nucleic acid synthesis by inhibiting purine metabolism and is used, usually in combination with other drugs, in the treatment of or in remission maintenance programs for leukemia.
Targets(IC50)	Nucleoside Antimetabolite/Analog,DNA/RNA Synthesis
In vitro	Mercaptopurine is widely used to treat malignancies, rheumatic diseases, dermatologic conditions, inflammatory bowel disease, and solid organ transplant rejection. [1] Mercaptopurine inhibits purine nucleotide synthesis and metabolism by inhibiting an enzyme called Phosphoribosyl pyrophosphate amidotransferase (PRPP Amidotransferase). PRPP Amidotransferase is the rate limiting enzyme of purine synthesis. It alters the synthesis and function of RNA and DNA. Mercaptopurine interferes with nucleotide interconversion and glycoprotein synthesis. [2]

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 4.23 mg/mL (24.85 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 1 mg/mL (5.88 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	5.8758 mL	29.3789 mL	58.7579 mL
5 mM	1.1752 mL	5.8758 mL	11.7516 mL
10 mM	0.5876 mL	2.9379 mL	5.8758 mL
50 mM	0.1175 mL	0.5876 mL	1.1752 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

Sahasranaman S, et al. Eur J Clin Pharmacol, 2008, 64(8), 753-767.
Fu Y H, Xu Z X, Jiang N, et al. High-throughput screening of active compounds against human respiratory syncytial virus. Virology. 2019
Weinshilboum RM, et al. Am J Hum Genet, 1980, 32(5), 651-662.
Fu Y H, Xu Z X, Jiang N, et al. High-throughput screening of active compounds against human respiratory syncytial virus. Virology. 2019.