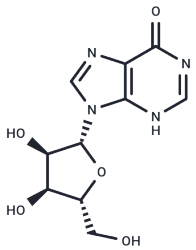
Data Sheet (Cat.No.T0437)

TargetMol

Inosine

Chemical Properties



CAS No. : 58-63-9

Formula: C10H12N4O5

Molecular Weight: 268.23

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	Inosine (NSC-20262), an endogenous purine nucleoside produced by the catabolism of adenosine, is an agonist of adenosine receptors A1R and A2AR. Inosine has anti-inflammatory, immunomodulatory, antinociceptive and neuroprotective effects.
Targets(IC50)	Endogenous Metabolite,Adenosine Receptor,ROS
In vitro	**METHODS**: Rat C6, DU-145, HaCaT, L6, and MCF7 cells were treated with Inosine (0-250 μM) for 48 hours, and MTT assay was used to detect the inhibition of cell growth. **RESULTS**: Inosine did not inhibit the growth of C6, DU-145, HaCaT, L6 and MCF7 cells at 250 μM. [1]
In vivo	**METHODS**: To study the analgesic effect of Inosine, Inosine (1 mg/kg, 10 mg/kg, and 100 mg/kg) was injected intraperitoneally to mice 20 min before formalin treatment. **RESULTS**: Inosine reduced formalin-induced leg withdrawal. [2]

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 245 mg/mL (913.4 mM),Sonication is recommended. H2O: 43 mg/mL (160.31 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: 5 mg/mL (18.64 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	3.7281 mL	18.6407 mL	37.2814 mL
5 mM	0.7456 mL	3.7281 mL	7.4563 mL
10 mM	0.3728 mL	1.8641 mL	3.7281 mL
50 mM	0.0746 mL	0.3728 mL	0.7456 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

Domenica M, et al. Trifluoromethyl derivatives of canonical nucleosides: synthesis and bioactivity studies. Med. Chem. Commun., 2013; 4: 1405-1410.
Chen J, Li T, Huang D, et al.Integrating UHPLC-MS/MS quantitative analysis and exogenous purine supplementation to elucidate the antidepressant mechanism of Chaigui granules by regulating purine metabolism.Journal of Pharmaceutical Analysis.2023
Nascimento FP, et al. Adenosine A1 receptor-dependent antinociception induced by inosine in mice: pharmacological, genetic and biochemical aspects. Mol Neurobiol. 2015;51(3):1368-78.
Junqueira SC et al. Inosine, an Endogenous Purine Nucleoside, Suppresses Immune Responses and Protects Mice from Experimental Autoimmune Encephalomyelitis: a Role for A2A Adenosine Receptor. Mol Neurobiol. 2016 Apr 30.