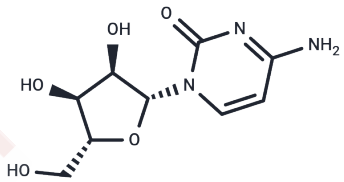
Data Sheet (Cat.No.T1591L)

TargetMol

Cytidine

Chemical Properties



CAS No. : 65-46-3

Formula: C9H13N3O5

Molecular Weight: 243.22

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	Cytidine (Cytosine-1-β-D-ribofuranoside) is a pyrimidine nucleoside comprised of a cytosine bound to ribose via a beta-N1-glycosidic bond. Cytidine is a precursor for uridine. Both cytidine and uridine are utilized in RNA synthesis.
Targets(IC50)	Nucleoside Antimetabolite/Analog,Endogenous Metabolite
In vivo	D-cycloserine (DCS) facilitates extinction of conditioned freezing to the light CS when no drug pre-exposure has occurred, but pre-exposure to DCS just prior to conditioning disrupted the facilitation of extinction effect in mice. [1] D-cycloserine (DCS) which has a high affinity for the glycine modulatory site in the NMDA receptor complex modulated memory processing in a dose-dependent manner. DCS also facilitates retention in 'senescence-accelerated mice' in which impairment of learning andmemory increases with age. [2] D-cycloserine (DCS) exhibits facilitated extinction of fear but are able to reacquire fear of that conditioned stimulus (CS) in a similar manner as saline-treated control rats. DCS-treated rats exhibits generalized extinction (i.e., they are less fearful of a non-extinguished CS) in comparison to controls. [3] D-cycloserine (DCS), an antimycobacterial agent known to cross the blood-brain barrier, binds with high affinity to this glycine modulatory site, functions as a positive modulator, and facilitates performance of learningtasks in rats. DCS appears to be a potent cognitive enhancer at doses lower than those required for antibacterial activity. [4] D-cycloserine injections (3.25, 15, or 30 mg/kg) before 30 non-reinforced light exposures dose-dependently enhances extinction but does not influence fear-potentiated startle in rats that does not receive extinction training. [5]

Solubility Information

Solubility	H2O: 45 mg/mL (185.02 mM),Sonication is recommended. DMSO: 242.5 mg/mL (997.04 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+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (8.22 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*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1115 mL	20.5575 mL	41.115 mL
5 mM	0.8223 mL	4.1115 mL	8.223 mL
10 mM	0.4112 mL	2.0558 mL	4.1115 mL
50 mM	0.0822 mL	0.4112 mL	0.8223 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

Jonas DA, et al. Ann Nutr Metab. 2001; 45(6):235-54.
Zheng M, Li J, Guo H, et al.IMPDH inhibitors upregulate PD-L1 in cancer cells without impairing immune checkpoint inhibitor efficacy.Acta Pharmacologica Sinica.2024: 1-10.