**Proteins** 

# **Product** Data Sheet

# Cytidine

Cat. No.: HY-B0158 CAS No.: 65-46-3

Molecular Formula:  $C_9H_{13}N_3O_5$ Molecular Weight: 243.22

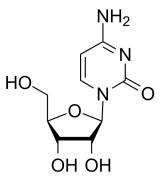
Target: Nucleoside Antimetabolite/Analog; Endogenous Metabolite

Pathway: Cell Cycle/DNA Damage; Metabolic Enzyme/Protease

Powder -20°C Storage: 3 years

4°C 2 years In solvent -80°C 2 years

> -20°C 1 year



### **SOLVENT & SOLUBILITY**

In Vitro  $H_2O : \ge 50 \text{ mg/mL} (205.58 \text{ mM})$ 

> DMSO: 50 mg/mL (205.58 mM; Need ultrasonic) \* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Mass Concentration	1 mg	5 mg	10 mg
	1 mM	4.1115 mL	20.5575 mL	41.1150 mL
	5 mM	0.8223 mL	4.1115 mL	8.2230 mL
	10 mM	0.4112 mL	2.0558 mL	4.1115 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- 1. Add each solvent one by one: PBS Solubility: 100 mg/mL (411.15 mM); Clear solution; Need ultrasonic
- 2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (10.28 mM); Clear solution
- 3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (10.28 mM); Clear solution
- 4. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (10.28 mM); Clear solution

## **BIOLOGICAL ACTIVITY**

Description

Cytidine is a pyrimidine nucleoside and acts as a component of RNA. Cytidine is a precursor of uridine. Cytidine controls neuronal-glial glutamate cycling, affecting cerebral phospholipid metabolism, catecholamine synthesis, and mitochondrial function<sup>[1][2][3]</sup>.

IC <sub>50</sub> & Target	Microbial Metabolite Human Endogenous Metabolite	
In Vivo	Cytidine decreases glutamate/glutamine levels and induces earlier improvement of depressive symptoms <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

## **CUSTOMER VALIDATION**

- J Mol Med (Berl). 2019 Aug;97(8):1183-1193.
- Molecules. 2023 Apr 11, 28(8), 3375.
- University of Hawaii. 2023 May.

See more customer validations on www.MedChemExpress.com

#### **REFERENCES**

- [1]. Jonas DA, et al. Safety considerations of DNA in food. Ann Nutr Metab. 2001;45(6):235-54.
- [2]. Wurtman RJ, et al. Effect of oral CDP-choline on plasma choline and uridine levels in humans. Biochem Pharmacol. 2000 Oct 1;60(7):989-92.
- [3]. Machado-Vieira R, et, al. New therapeutic targets for mood disorders. ScientificWorldJournal. 2010 Apr 13;10:713-26.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA