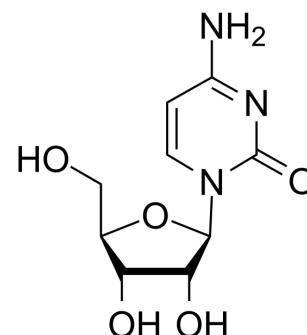


Cytidine

Cat. No.:	HY-B0158		
CAS No.:	65-46-3		
Molecular Formula:	C ₉ H ₁₃ N ₃ O ₅		
Molecular Weight:	243.22		
Target:	Nucleoside Antimetabolite/Analog; Endogenous Metabolite		
Pathway:	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

H₂O : ≥ 50 mg/mL (205.58 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

- Add each solvent one by one: PBS
Solubility: 100 mg/mL (411.15 mM); Clear solution; Need ultrasonic
- 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
- 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
- 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-glia glutamate cycling, affecting cerebral phospholipid metabolism, catecholamine synthesis, and mitochondrial function^{[1][2][3]}.

IC ₅₀ & Target	Microbial Metabolite	Human Endogenous Metabolite
In Vivo	Cytidine decreases glutamate/glutamine levels and induces earlier improvement of depressive symptoms ^[3] . 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.

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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.

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