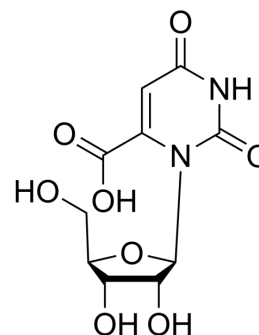


## Orotidine

Cat. No.:	HY-113226	
CAS No.:	314-50-1	
Molecular Formula:	C <sub>10</sub> H <sub>12</sub> N <sub>2</sub> O <sub>8</sub>	
Molecular Weight:	288.21	
Target:	Endogenous Metabolite	
Pathway:	Metabolic Enzyme/Protease	
Storage:	Powder	-20°C 3 years
	In solvent	-80°C 6 months
		-20°C 1 month



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 50 mg/mL (173.48 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.4697 mL	17.3485 mL	34.6969 mL
	5 mM	0.6939 mL	3.4697 mL	6.9394 mL
	10 mM	0.3470 mL	1.7348 mL	3.4697 mL

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

### BIOLOGICAL ACTIVITY

#### Description

Orotidine, a nucleotide, is an intermediate in pyrimidine nucleotide biosynthesis in RNA and DNA. Orotidine is mainly found in bacteria, fungi and plants<sup>[1][2]</sup>.

#### IC<sub>50</sub> & Target

Human Endogenous Metabolite

#### In Vitro

Extant de novo biosynthetic pathway uses Orotidine 50-monophosphate to synthesize the canonical pyrimidine nucleotides in RNA and DNA. In this context, Orotidine is the only nucleotide that is synthesized through a 'direct intermolecular nucleosidation' step, with an attack of the fully-preformed nucleobase (orotic acid) on the activated 5-phosphoribosyl-diphosphate as opposed to the purine nucleotides whose heterocyclic rings are constructed stepwise on the sugar<sup>[1]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

[1]. Kim EK, et al. Synthesis of orotidine by intramolecular nucleosidation. Chem Commun (Camb). 2015 Apr 4;51(26):5618-21.

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

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