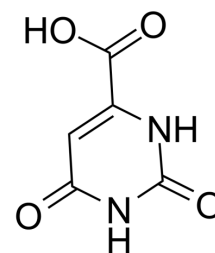


## Orotic acid zinc

<b>Cat. No.:</b>	HY-N0157A
<b>CAS No.:</b>	68399-76-8
<b>Molecular Formula:</b>	C <sub>5</sub> H <sub>4</sub> N <sub>2</sub> O <sub>4</sub> Zn <sub>0.5</sub>
<b>Molecular Weight:</b>	188.79
<b>Target:</b>	Nucleoside Antimetabolite/Analog; Endogenous Metabolite
<b>Pathway:</b>	Cell Cycle/DNA Damage; Metabolic Enzyme/Protease
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



0.5Zn

### BIOLOGICAL ACTIVITY

<b>Description</b>	Orotic acid (zinc), a precursor in biosynthesis of pyrimidine nucleotides and RNA, is released from the mitochondrial dihydroorotate dehydrogenase (DHODH) for conversion to UMP by the cytoplasmic UMP synthase enzyme. Orotic acid (zinc) is a marker for measurement in routine newborn screening for urea cycle disorders. Orotic acid (zinc) can induce hepatic steatosis and hepatomegaly in rats <sup>[1][2][3]</sup> .
<b>In Vitro</b>	Orotic acid is found in milk and dairy products, and it is converted to uridine for use in the pyrimidine salvage pathway predominantly in liver, kidney and erythrocytes <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Orotic acid is a marker for measurement of urea cycle disorders (UCDs), including ornithine transcarbamylase deficiency (OTCD) <sup>[2]</sup> . Orotic acid (1.0% addition to the diet; p.o. for 3-10 d) induces a development of fatty liver by day 7, and decreases purine/pyrimidine ratio of hepatic acid-soluble nucleotides by day 3 <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.

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### REFERENCES

- [1]. Löffler M, et, al. Orotate (orotic acid): An essential and versatile molecule. Nucleosides Nucleotides Nucleic Acids.
- [2]. Staretz-Chacham O, et, al. The role of orotic acid measurement in routine newborn screening for urea cycle disorders. J Inherit Metab Dis. 2020 Nov 15.
- [3]. Durschlag RP, et, al. Orotic acid-induced metabolic changes in the rat. J Nutr. 1980 Apr;110(4):816-21.

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

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