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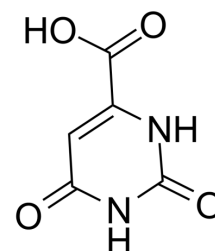
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Orotic acid zinc

Cat. No.:	HY-N0157A
CAS No.:	68399-76-8
Molecular Formula:	C ₅ H ₄ N ₂ O ₄ Zn _{0.5}
Molecular Weight:	188.79
Target:	Endogenous Metabolite; Nucleoside Antimetabolite/Analog
Pathway:	Metabolic Enzyme/Protease; Cell Cycle/DNA Damage
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



0.5Zn

BIOLOGICAL ACTIVITY

Description	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 ^{[1][2][3]} .
In Vitro	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 ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Orotic acid is a marker for measurement of urea cycle disorders (UCDs), including ornithine transcarbamylase deficiency (OTCD) ^[2] . 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 ^[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.

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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.

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

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