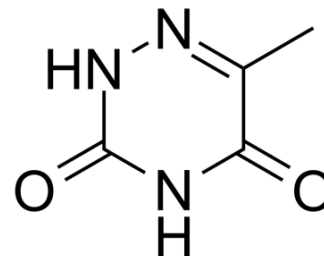


6-Azathymine

Cat. No.:	HY-136559
CAS No.:	932-53-6
Molecular Formula:	C ₄ H ₅ N ₃ O ₂
Molecular Weight:	127.1
Target:	Nucleoside Antimetabolite/Analog; DNA/RNA Synthesis; Bacterial; Influenza Virus
Pathway:	Cell Cycle/DNA Damage; Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	6-Azathymine, a 6-nitrogen analog of thymine, is a potent D-3-aminoisobutyrate-pyruvate aminotransferase inhibitor. 6-Azathymine inhibits the biosynthesis of DNA, and has antibacterial and antiviral activities ^{[1][2][3][4]} .
In Vitro	6-Azathymine is a competitive antagonist of the growth of <i>Streptococcus faecalis</i> (8043) and several other strains of microorganisms. Studies of the mechanism of action of 6-Azathymine reveal that <i>S. faecalis</i> can convert the analog to the corresponding deoxyriboside, azathymidine ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	The administration of 6-Azathymine to the mouse leads to the urinary elimination not only of free Azathymine, but also of various metabolites of it. Following the administration of 6-Azathymine-5- ¹⁴ C to mice, radioactivity is found in all tissues investigated, not only in the form of free Azathymine, but also as metabolic derivatives ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. N Tamaki, et al. Purification, Characterization and Inhibition of D-3-aminoisobutyrate Aminotransferase From the Rat Liver. *Eur J Biochem.* 1990 Apr 20;189(1):39-45.
- [2]. W H PRUSOFF, et al. Effect of the Deoxyriboside of 6-azathymine (Azathymidine) on the Biosynthesis of Deoxyribonucleic Acid by Bone Marrow and Neoplastic Cells (In Vitro). *Biochim Biophys Acta.* 1956 Apr;20(1):209-14.
- [3]. RA GAITO, et al. Studies on the Metabolism of Thymine and 6-azathymine. *Biochem Pharmacol.* Apr-May 1962;11:323-36.
- [4]. B. Gabrielsen, et al. In vitro and in vivo antiviral (RNA) evaluation of orotidine 51-monophosphatedecarboxylase inhibitors and analogues including 6-azauridine-51-(ethylmethoxyalaninyl)phosphate (a 51-monophosphate prodrug). *Antiviral Chemistry & Chemotherapy* (1994) 5(4), 209-220.

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

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