

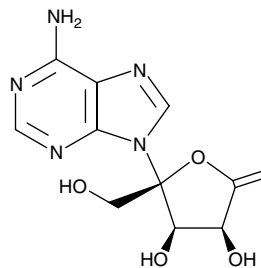
# Product Information



## Decoyinine

Item No. 13851

**CAS Registry No.:** 2004-04-8  
**Formal Name:** 4',5'-didehydro-1'-C-(hydroxymethyl)-adenosine  
**Synonym:** Angustmycin A  
**MF:** C<sub>11</sub>H<sub>13</sub>N<sub>5</sub>O<sub>4</sub>  
**FW:** 279.3  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that decoyinine be stored as supplied at -20°C. It should be stable for at least one year.

Decoyinine is supplied as a crystalline solid. A stock solution may be made by dissolving the decoyinine in the solvent of choice. Decoyinine is soluble in organic solvents such as ethanol, and DMSO (warm), and water, which should be purged with an inert gas.

Decoyinine is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Decoyinine is a nucleoside analog from bacteria which acts as a selective GMP synthetase inhibitor ( $K_i = 50 \mu\text{M}$ ).<sup>1,2</sup> Through this action, it modulates gene expression related to sporulation in bacteria and mycelium formation in *Streptomyces*.<sup>3-6</sup>

### References

1. Nakamura, J. and Lou, L. Biochemical characterization of human GMP synthetase. *J. Biol. Chem.* **270**(13), 7347-7353 (1995).
2. Uratani, B., Lopez, J.M., and Freese, E. Effect of decoyinine on peptidoglycan synthesis and turnover in *Bacillus subtilis*. *J. Bacteriol.* **154**(1), 261-268 (1983).
3. Zhang, S. and Haldenwang, W.G. Contributions of ATP, GTP, and redox state to nutritional stress activation of the *Bacillus subtilis*  $\sigma^B$  transcription factor. *J. Bacteriol.* **187**(22), 7554-7560 (2005).
4. Tojo, S., Satomura, T., Kumamoto, K., *et al.* Molecular mechanisms underlying the positive stringent response of the *Bacillus subtilis* *ilv-leu* operon, involved in the biosynthesis of branched-chain amino acids. *J. Bacteriol.* **190**(18), 6134-6147 (2008).
5. Bai, U., Lewandoski, M., Dubnau, E., *et al.* Temporal regulation of the *Bacillus subtilis* early sporulation gene *spo0F*. *J. Bacteriol.* **172**(9), 5432-5439 (1990).
6. Ochi, K. A decrease in GTP content is associated with aerial mycelium formation in *Streptomyces* MA406-A-1. *J. Gen. Microbiol.* **132**, 299-305 (1986).

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

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