

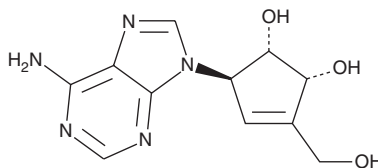
# PRODUCT INFORMATION



## (-)-Neplanocin A

Item No. 10584

**CAS Registry No.:** 72877-50-0  
**Formal Name:** 5R-(6-amino-9H-purin-9-yl)-3-(hydroxymethyl)-3-cyclopentene-1S,2R-diol  
**MF:** C<sub>11</sub>H<sub>13</sub>N<sub>5</sub>O<sub>3</sub>  
**FW:** 263.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 262 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

(-)-Neplanocin A is supplied as a crystalline solid. A stock solution may be made by dissolving the (-)-neplanocin A in the solvent of choice, which should be purged with an inert gas. (-)-Neplanocin A is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of (-)-neplanocin A in these solvents is approximately 3 mg/ml and 0.2 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of (-)-neplanocin A can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (-)-neplanocin A in PBS, pH 7.2, is approximately 0.3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

S-Adenosylhomocysteine (SAH) hydrolase catalyzes the reversible hydrolysis of SAH to adenosine and homocysteine. The inhibition of SAH hydrolase causes the intracellular accumulation of SAH, elevating the ratio of SAH to S-adenosylmethionine (SAM) and inhibiting SAM-dependent methyltransferase. (-)-Neplanocin A potently and irreversibly inactivates SAH hydrolase ( $K_i = 8.39$  nM).<sup>1</sup> It has antitumor activity against mouse leukemia L1210 cells and broad-spectrum antiviral activity.<sup>1-4</sup> Neplanocin A is more potent against vesicular stomatitis than the reversible SAH hydrolase inhibitor 3-deazaneplanocin (ID<sub>50</sub> = 0.07 and 0.3 μg/ml, respectively).<sup>3,5</sup>

### References

1. Borchardt, R.T., Keller, B.T., and Patel-Thombre, U. *J. Biol. Chem.* **259**(7), 4353-4358 (1984).
2. Yaginuma, S., Muto, N., Tsujino, M., et al. *J. Antibiot.* **34**(4), 359-66 (1981).
3. De Clercq, E. *Antimicrob. Agents Chemother.* **28**(1), 84-9 (1985).
4. Borcharding, D.R., Narayanan, S., Hasobe, M., et al. *J. Med. Chem.* **31**, 1729-38 (1988).
5. Tseng, C.K.H., Marquez, V.E., Fuller, R.W., et al. *J. Med. Chem.* **32**, 1442-1446 (1989).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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