

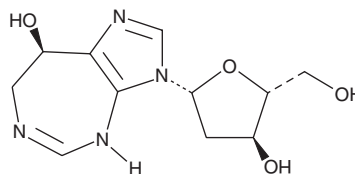
# PRODUCT INFORMATION



## Pentostatin

Item No. 14878

**CAS Registry No.:** 53910-25-1  
**Formal Name:** (8R)-3-(2-deoxy-β-D-erythro-pentofuranosyl)-3,4,7,8-tetrahydroimidazo[4,5-d][1,3]diazepin-8-ol  
**Synonyms:** CI 825, CL 67310465, DCF, 2'-Deoxycoformycin, Deoxycoformycin, NSC 218321, NSC 247520  
**MF:** C<sub>11</sub>H<sub>16</sub>N<sub>4</sub>O<sub>4</sub>  
**FW:** 268.3  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 286 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

Pentostatin is supplied as a crystalline solid. A stock solution may be made by dissolving the pentostatin in the solvent of choice, which should be purged with an inert gas. Pentostatin is soluble in the organic solvent DMSO at a concentration of approximately 10 mg/ml.

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 pentostatin can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of pentostatin in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Pentostatin is a purine antimetabolite and an adenosine deaminase (ADA) inhibitor ( $K_i = 0.09$  nM).<sup>1,2</sup> It reduces 2'-deoxyadenosine-induced growth inhibition of MOLT-4 lymphoblast cells ( $K_i = 5.6$  μM). It inhibits erythrocyte and ascites tumor cell ADA in an L1210 murine skin lymphocytic leukemia model when administered at a dose of 0.2 mg/kg.<sup>3</sup> Pentostatin (10 μg/animal) inhibits tumor growth and increases survival rate in a CT26/NY-ESO-1 mouse xenograft model.<sup>2</sup> Formulations containing pentostatin have been used in the treatment of hairy cell leukemia.

### References

1. Shewach, D.S., Krawczyk, S.H., Acevedo, O.L., *et al.* Inhibition of adenosine deaminase by azapurine ribonucleosides. *Biochem. Pharmacol.* **44(9)**, 1697-1700 (1992).
2. Tusup, M., Kündig, T.M., and Pascolo, S. Epitranscriptomics modifier pentostatin indirectly triggers Toll-like receptor 3 and can enhance immune infiltration in tumors. *Mol. Ther.* **30(3)**, 1163-1170 (2022).
3. Agarwal, R.P. Recovery of 2'-deoxycoformycin-inhibited adenosine deaminase of mouse erythrocytes and leukemia L1210 *in vivo*. *Cancer Res.* **39(4)**, 1425-1427 (1979).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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