Product Information

3-Deazaneplanocin A
Item No. 13828

CAS Registry No.: 102052-95-9
Formal Name: 5R-(4-amino-1H-imidazo[4,5-c]pyridin-1-yl)-3-(hydroxymethyl)-3-cyclopentene-1S,2R-diol
Synonyms: DZNep, NSC 617989
MF: C12H14N4O3
FW: 262.3
Purity: ≥97%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λmax: 268 nm

Laboratory Procedures

For long term storage, we suggest that 3-deazaneplanocin A be stored as supplied at -20°C. It should be stable for at least two years.

3-Deazaneplanocin A is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-deazaneplanocin A in the solvent of choice. 3-Deazaneplanocin A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of 3-deazaneplanocin A in these solvents is approximately 1 mg/ml in ethanol and approximately 20 mg/ml in DMSO and DMF.

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 3-deazaneplanocin A can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 3-deazaneplanocin A in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

The lysine methyltransferase EZH2 (KMT6), part of the polycomb repressive complex 2, catalyzes trimethylation of lysine 27 on histone H3 and is involved in proliferation and aggressive cell growth associated with neoplastic cells. 3-Deazaneplanocin A is a cyclopentenyl analog of 3-deazaadenosine, originally synthesized as an inhibitor of S-adenosyl-L-homocysteine hydrolase. 3 It has been shown to deplete EZH2 levels and to inhibit trimethylation of lysine 27 on histone H3 in cultured human acute myeloid leukemia (AML) HL-60 and OCI-AML3 cells and in primary AML cells in a dose-dependent manner (0.2-1 μM). 3-Deazaneplanocin A treatment of cultured human AML cells induces increased expression of the cell-cycle regulators p21, p27, and FBXO32, leading to cell cycle arrest and apoptosis. 3 When used in combination with the pan-histone deacetylase inhibitor panobinostat (10 mg/kg), 3-deazaneplanocin A's anti-leukemic effects are synergistically enhanced in mice implanted with AML cells. 3, 4

References

Related Products
For a list of related products please visit: www.caymanchem.com/catalog/13828

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

SAFETY DATA
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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The limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees. Buyer's exclusive remedy and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

For further details, please refer to our Warranty and Limitation of Remedy located on our website and in our catalog.