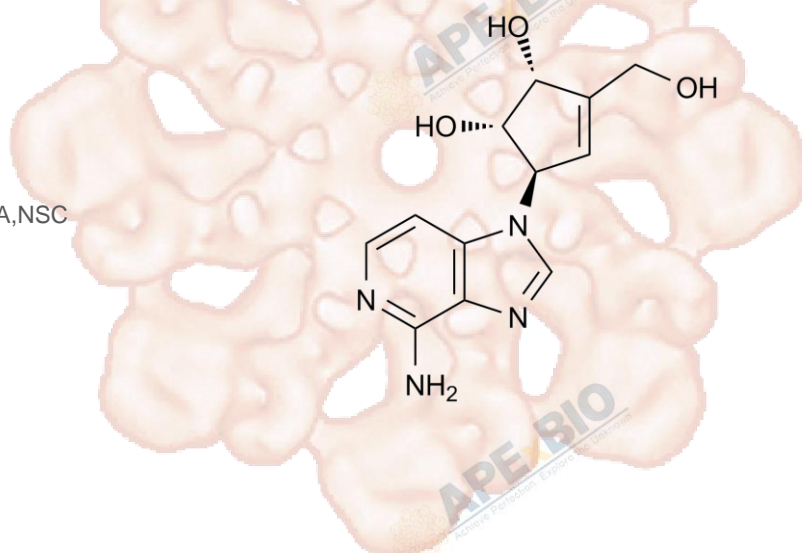


3-Deazaneplanocin, DZNep

Cat. No.:	A1905
CAS No.:	102052-95-9
Formula:	C ₁₂ H ₂₄ N ₄ O ₃
M.Wt:	262.26
Synonyms:	DZNep, 3-Deazaneplanocin A, NSC 617989, NSC617989
Target:	Chromatin/Epigenetics
Pathway:	Histone Methyltransferase
Storage:	Store at -20°C



Solvent & Solubility

insoluble in EtOH; ≥ 17.07 mg/mL in DMSO; ≥ 17.43 mg/mL in H₂O

In Vitro

Preparing Stock Solutions	Solvent		Mass		
	Concentration		1mg	5mg	10mg
	1 mM		3.8130 mL	19.0650 mL	38.1301 mL
	5 mM		0.7626 mL	3.8130 mL	7.6260 mL
	10 mM		0.3813 mL	1.9065 mL	3.8130 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

S-adenosylhomocysteine and EZH2 inhibitor

IC₅₀ & Target

50 pM (Ki) (S-adenosylhomocysteine hydrolase)

Cell Viability Assay

In Vitro

Cell Line:	Human acute myeloid leukemia (AML) cell
Preparation method:	The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

	Reacting conditions:	100-750 nM; 24-72h
	Applications:	DZNep induced apoptosis in cultured and primary AML cells. DZNep exhausted EZH2 levels, and inhibits trimethylation of lysine 27 on histone H3 in the AML HL-60 and OCI-AML3 cells. DZNep induced the levels of p16, p21, p27, and FBXO32 after cyclin E and HOXA9 levels run out.
In Vivo	Animal experiment	
	Animal models:	Sprague-Dawley rats (120–140 g)
	Dosage form:	5μM DZNep for 24 h pre-treatment before experiment, orally taken with diets
	Applications:	DZNep significantly reduced EZH2 expression and activity, and it increased lipid accumulation, inflammatory molecules and microRNAs in non-alcoholic fatty liver disease (NAFLD) mouse model.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Bassem Merit, Shoucri. "Retinoid X Receptor Activation by the Endocrine Disruptor Tributyltin Promotes Adipose Lineage Commitment and Perturbs Adipocyte Function" UNIVERSITY OF CALIFORNIA. 2018.
2. Hardik Rameshchandra Mody. "Investigation of Micro-RNA-based Approaches to Overcome Epithelial-Mesenchymal Transition in Pancreatic Cancer" Ohio State University. 2017. PMID:29498802
3. Lin B, Coleman JH, et al. "Injury Induces Endogenous Reprogramming and Dedifferentiation of Neuronal Progenitors to Multipotency." Cell Stem Cell. 2017 Nov 20. pii: S1934-5909(17)30375-2. PMID:29174332
4. Shi X, Tasdogan A, et al. "The abundance of metabolites related to protein methylation correlates with the metastatic capacity of human melanoma xenografts." Sci Adv. 2017 Nov 1;3(11):eaao5268. PMID:29109980
5. Bassem M. Shoucri, Eric S. Martinez, et al. "Retinoid X receptor activation alters the chromatin landscape to commit mesenchymal stem cells to the adipose lineage." Endocrinology. 2017 Jul.

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References

1. Fiskus W1, Wang Y, Sreekumar A et al. Combined epigenetic therapy with the histone methyltransferase EZH2 inhibitor 3-deazaneplanocin A and the histone deacetylase inhibitor panobinostat against human AML cells. Blood. 2009 Sep 24;114(13):2733-43.
2. Vella S, Gnani D, Crudele A et al. EZH2 down-regulation exacerbates lipid accumulation and inflammation in vitro and in vivo NAFLD. Int J Mol Sci. 2013 Dec 12;14(12):24154-68.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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