Adenosine dialdehyde

Cat. No.: HY-123055

CAS No.: 34240-05-6

Molecular Formula: $C_{10}H_{11}N_5O_4$

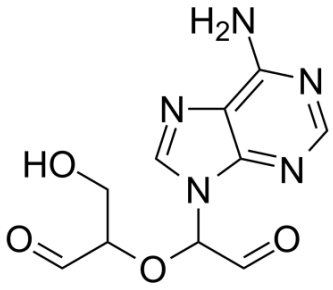
Molecular Weight: 265.23

Target: Nucleoside Antimetabolite/Analog

Pathway: Cell Cycle/DNA Damage

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 10 mg/mL (37.70 mM; Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.7703 mL	18.8516 mL	37.7031 mL
5 mM	0.7541 mL	3.7703 mL	7.5406 mL
10 mM	0.3770 mL	1.8852 mL	3.7703 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (7.84 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.08 mg/mL (7.84 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Adenosine Dialdehyde, a purine nucleoside analogue, is an irreversible inhibitor of S-adenosylhomocysteine hydrolase (SAH) (IC_{50}=40 nM). Adenosine Dialdehyde exhibits potent anti-tumor activity in vivo and can be used for the cancer research [1][2].

In Vitro

Adenosine dialdehyde suppresses MNB cell replication in tissue culture with concentra tions of 1.5 μM with producing 50% inhibition[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Adenosine dialdehyde (subcutaneous injection; 1.5-2.5 mg/kg; infused over a 7-day period (minipump infusion))

significantly increases the mean life span of tumor bearing mice from 20.9 days in diluent treated controls to 35.3 days in AD treated animals[2].

Adenosine dialdehyde (subcutaneous injection; 1.5-2.5 mg/kg; two 7-day periods interspersed by a 7-day drug free interval(minipump infusion))increases mean life span 80% in diluent treated controls (controls, 21.3 days; AD treated 38.4 days) in mice[2].

Adenosine dialdehyde (subcutaneous injection; 2-3 mg/kg; infused over a 7-day period (minipump infusion)) does not exhibit any hematopoietic toxicity in mice, and it can significantly suppress murine neuroblastoma tumor growth with little systemic toxicity[2].

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Animal Model:	Adult male A/J mice, weighing 20 to 25 g with MNB cells[2]
Dosage:	1.5-2.5 mg/kg
Administration:	Subcutaneous injection; 1.5-2.5 mg/kg; two 7-day periods interspersed by a 7-day drug free interval (minipump infusion)
Result:	Significantly suppressed murine neuroblastoma tumor growth. Prolongs the life span of tumor bearing mice. Did not suppress hematopoiesis when administered by steady state infusion[2].

REFERENCES

[1]. G V Madhavan, et al. Synthesis and antiviral evaluation of 6'-substituted aristeromycins: potential mechanism-based inhibitors of S-adenosylhomocysteine hydrolase. J Med Chem

[2]. B Bostrom, et al. Inhibitory effect of adenosine dialdehyde on in situ murine neuroblastoma growth.Cancer Res. 1988 Nov 1;48(21):5933-6.

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