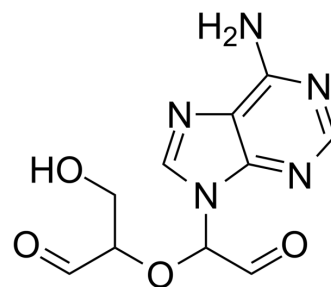


Adenosine dialdehyde

| | |
|---------------------------|--|
| Cat. No.: | HY-123055 |
| CAS No.: | 34240-05-6 |
| Molecular Formula: | C ₁₀ H ₁₁ N ₅ O ₄ |
| Molecular Weight: | 265.23 |
| Target: | Nucleoside Antimetabolite/Analog |
| Pathway: | Cell Cycle/DNA Damage |
| Storage: | -20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |



SOLVENT & SOLUBILITY

| | | | | | |
|---|--|--------------------------|--------------|------------|------------|
| In Vitro | DMSO : 10 mg/mL (37.70 mM; Need ultrasonic) | | | | |
| | | Solvent Concentration | Mass 1 mg | 5 mg | 10 mg |
| | Preparing Stock Solutions | 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

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|--------------------|---|
| Description | Adenosine dialdehyde, a purine nucleoside analogue, is a potent inhibitor of S-Adenosylhomocysteine hydrolase (SAHH) (K _i = 3.3 nM) ^[1] . 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 concentrations of 1.5 μM with producing 50% inhibition ^[2] . 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 ^[3] . 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^[3].

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^[3].

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

| | |
|-----------------|--|
| Animal Model: | Adult male A/J mice, weighing 20 to 25 g with MNB cells ^[3] |
| 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.

[3]. V Ramakrishnan, et al. Adenosine dialdehyde and neplanocin A: Potent inhibitors of S-adenosylhomocysteine hydrolase in neuroblastoma N2a cells. Neurochem Int. 1987;10(4):423-31.

Caution: Product has not been fully validated for medical applications. For research use only.

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