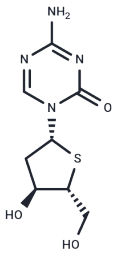
Data Sheet (Cat.No.T85478)

TargetMol

5-Aza-4'-thio-2'-deoxycytidine

Chemical Properties



CAS No. : 169514-76-5

Formula: C8H12N4O3S

Molecular Weight: 244.27

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	5-Aza-4'-thio-2'-deoxycytidine (5-Aza-T-dCyd), a sulfur-containing deoxy-cytidine analog, serves as an orally active inhibitor of DNA methyltransferase I (DNMT1). It exhibits potential antitumor effects and DNA hypomethylating properties [1].
Targets(IC50)	DNA Methyltransferase
In vitro	5-Aza-4'-thio-2'-deoxycytidine (5-Aza-T-dCyd; 72 h) effectively inhibits various leukemia lines, including CCRF-CEM (IC 50 =0.2 μM) and KG1a (IC 50 =0.06 μM). This compound also reduces the viability of several carcinoma lines, such as NCI-H23 lung carcinoma (IC 50 =4.5 μM), HCT-116 colon carcinoma (IC 50 =58 μM), and IGROV-1 ovarian carcinoma (IC 50 =36 μM) [1]. It significantly depletes DNMT1 in the NCI-H23, HCT-116, and IGROV-1 cells, as well as in CCRF-CEM and KG1a myeloid leukemia cells across various dosages (0.1-20 μM; 96 h) [1]. Furthermore, at a concentration of 1 μM and an incubation period of 96 h, 5-Aza-4'-thio-2'-deoxycytidine induces CpG demethylation and reactivates the p15 tumor suppressor gene [1]. Western blot analysis confirms that DNMT1 is markedly depleted in NCI-H23, HCT-116, and IGROV-1 cells treated with concentrations of 1, 5, 10, 20 μM for 96 h [1].
In vivo	5-Aza-4'-thio-2'-deoxycytidine administered intraperitoneally at dosages of 6.7 and 10 mg/kg/day over 9 days demonstrates significant antitumor efficacy against NCI-H23 tumor xenografts in young female athymic nu/nu mice [1]. At a reduced dose of 5 mg/kg/day for the same duration, this compound effectively reduces DNMT1 levels in CCRF-CEM tumor mice xenografts [1]. Additionally, a regimen of 1.5 mg/kg given daily for five days, followed by a rest period and repeating for three cycles, achieves modest suppression in the growth of HCT116 colon carcinoma and OVCAR3 ovarian tumor xenografts. However, it exhibits minimal antitumor effects on HL-60 leukemia xenografts [2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.0938 mL	20.4692 mL	40.9383 mL
5 mM	0.8188 mL	4.0938 mL	8.1877 mL
10 mM	0.4094 mL	2.0469 mL	4.0938 mL
50 mM	0.0819 mL	0.4094 mL	0.8188 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.