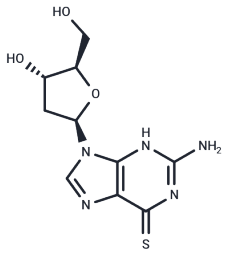
Data Sheet (Cat.No.T6746)

TargetMol

6-Thio-2'-Deoxyguanosine

Chemical Properties



CAS No. : 789-61-7

Formula: C10H13N5O3S

Molecular Weight: 283.31

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	6-Thio-2'-Deoxyguanosine (β-TGdR) is a nucleoside analog and telomerase substrate.
Targets(IC50)	DNA/RNA Synthesis
In vitro	6-Thio-dG induces telomere dysfunction and results in progressive telomere shortening in telomerase-positive human cancer cells and hTERT-expressing human fibroblasts. In tested cancer cells, 6-thio-dG inhibits cell viability with IC50 values between 0.7 and 2.9 μM. [1]
In vivo	In mice bearing A549 lung cancer xenografts, 6-Thio-dG (2 mg/kg, i.p.) decreases the tumorigenicity of A549 Cells by inducing telomere dysfunction. [1]
Cell Research	Cells are plated in growth media in 96-well plates. Cells are incubated for 1 week and treated with varying concentrations of 6-thio-dG and 6-thioguanine or DMSO every 3 days. The 96-well plates are analyzed according the manufacturer's directions for the CellTiterGlo luminescent cell viability assay to obtain IC50 values. The IC50 is defined as the concentration of drug at which 50% of the cells are inhibited by the drug. Sigmoidal dose-response curves are used to calculate IC50 values. All samples are analyzed in triplicate, and SDs are from two independent experiments.(Only for Reference)

Solubility Information

Solubility	DMSO: 52 mg/mL (183.54 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 1 mg/mL (3.53 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5297 mL	17.6485 mL	35.297 mL
5 mM	0.7059 mL	3.5297 mL	7.0594 mL
10 mM	0.353 mL	1.7649 mL	3.5297 mL
50 mM	0.0706 mL	0.353 mL	0.7059 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.

Reference

Mender I, et al. Cancer Discov. 2015, 5(1), 82-95.