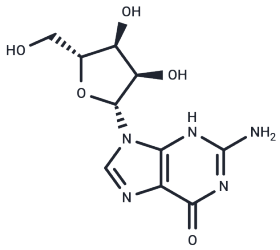
# Data Sheet (Cat.No.T6523)

TargetMol

## Guanosine

### Chemical Properties



CAS No. : 118-00-3

Formula: C10H13N5O5

Molecular Weight: 283.24

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

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| Description | Guanosine (DL-Guanosine) is a purine nucleoside formed from a beta-N9-glycosidic bond between guanine and a ribose ring, and is essential for metabolism. |
| Targets(IC50) | Endogenous Metabolite,HSV |
| In vitro | Guanosine is a purine nucleoside comprising guanine attached to a ribose (ribofuranose) ring via a β-N9-glycosidic bond. Guanosine can be phosphorylated to become guanosine monophosphate (GMP), cyclic guanosine monophosphate (cGMP), guanosine diphosp |
| Kinase Assay | Tyrosine kinase assays: The tyrosine kinase activities are determined in 96-well ELISA plates precoated with 20 μg/mL Poly (Glu,Tyr)4:1. First, 80 μL of 5 μM ATP solution diluted in kinase reaction buffer (50 mM HEPES pH 7.4, 20 mM MgCl2, 0.1 mM MnCl2, 0.2 mM Na3VO4, 1 mM DTT) is added to each well. Various concentrations of AST-1306 diluted in 10 μL of 1% DMSO (v/v) are then added to each reaction well, with 1% DMSO (v/v) used as the negative control. Subsequently, the kinase reaction is initiated by the addition of purified tyrosine kinase proteins diluted in 10 μL of kinase reaction buffer solution. Experiments at each concentration are performed in duplicate. After incubation for 60 min at 37 °C, the plate is washed three times with phosphate buffered saline (PBS) containing 0.1% Tween 20 (T-PBS). Next, 100 μL anti-phosphotyrosine antibody (PY99, 1:500 dilution) diluted in T-PBS containing 5 mg/mL BSA is added. After 30 min incubation at 37 °C, the plate is washed three times as before. Horseradish peroxidase-conjugated goat anti-mouse IgG (100 μL) diluted 1:2000 in T-PBS containing 5 mg/mL BSA is added. The plate is reincubated at 37 °C for 30 min, and then washed with PBS. Finally, 100 μL of a solution containing 0.03 % Water2 and 2 mg/mL o-phenylenediamine in 0.1 M citrate buffer, pH 5.5, is added and samples are incubated at room temperature until color emerged. The reaction is terminated by the addition of 50 μL of 2 M H2SO4, and the plate is read using a multi-well spectrophotometer at 490 nm. The inhibition rate (%) is calculated using the following equation: [1-(A490 treated /A490 control)] ×100%. IC50 values are determined from the results of at least three independent tests and calculated by Logit method. |

### Solubility Information

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|---|---|
| Solubility | H2O: < 1 mg/mL (insoluble or slightly soluble),<br>DMSO: 83.33 mg/mL (294.2 mM),Sonication is recommended.<br>Ethanol: < 1 mg/mL (insoluble or slightly soluble),<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 8.33 mg/mL (29.41 mM),Suspension.<br>10% DMSO+90% Saline: < 8.33 mg/mL (29.41 mM),Lower concentrations may be soluble, but exact solubility limit is unknown.<br>*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 | 3.5306 mL | 17.6529 mL | 35.3057 mL |
| 5 mM | 0.7061 mL | 3.5306 mL | 7.0611 mL |
| 10 mM | 0.3531 mL | 1.7653 mL | 3.5306 mL |
| 50 mM | 0.0706 mL | 0.3531 mL | 0.7061 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

Sáenz JB, et al. Nat Chem Biol. 2009, 5(3), 157-16
Chen J, Li T, Huang D, et al.Integrating UHPLC-MS/MS quantitative analysis and exogenous purine supplementation to elucidate the antidepressant mechanism of Chaigui granules by regulating purine metabolism.Journal of Pharmaceutical Analysis.2023
Zeng X, Shi C, Han Y, et al.A metabolic atlas of blood cells in young and aged mice identifies uridine as a metabolite to rejuvenate aged hematopoietic stem cells.Nature Aging.2024: 1-16.
Zheng M, Li J, Guo H, et al.IMPDH inhibitors upregulate PD-L1 in cancer cells without impairing immune checkpoint inhibitor efficacy.Acta Pharmacologica Sinica.2024: 1-10.