8-Azaguanine

Cat. No.: HY-B1468

CAS No.: 134-58-7

Molecular Formula: $C_4H_4N_6O$

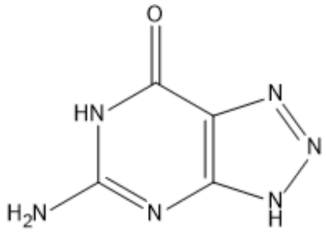
Molecular Weight: 152.11

Target: Nucleoside Antimetabolite/Analog; Endogenous Metabolite

Pathway: Cell Cycle/DNA Damage; Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 2 mg/mL (13.15 mM; ultrasonic and warming and adjust pH to 5 with HCl and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	6.5742 mL	32.8709 mL	65.7419 mL
	5 mM	1.3148 mL	6.5742 mL	13.1484 mL
	10 mM	0.6574 mL	3.2871 mL	6.5742 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: ≥ 0.24 mg/mL (1.58 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.24 mg/mL (1.58 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.24 mg/mL (1.58 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

8-Azaguanine is a purine analogue that shows antineoplastic activity. 8-Azaguanine functions as an antimetabolite and easily incorporates into ribonucleic acids, interfering with normal biosynthetic pathways, thus inhibiting cellular growth[1].

IC_{50} & Target		
	Human Endogenous Metabolite	Human Endogenous Metabolite

In Vitro

8-Azaguanine induces a decrease in cell viability in a dose, time and cell type dependent manner with MOLT3 cells being the most sensitive to 8-Azaguanine citotoxic effects (24h IC_{50}: 10 μM) when compared with CEM cells (24h IC_{50}: 100 μM). MOLT3

cell treated with 8-Azaguanine shows an increase in CD26 expression (MIF) compared with that of CEM cell submitted to the same conditions (65.4 versus 18.7)[1].

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

PROTOCOL

Cell Assay [1]

Detection of apoptosis and necrosis is analyzed by Annexin V and propidium iodide staining. After incubation in the absence or in the presence of 8-Azaguanine, cells are washed (centrifuged at 300×g during 5 min) and incubated for 10 min at 4°C in 440 µL Annexin buffer, containing 5 µL Annexin V and 5 µL propidium iodide. Then cells are washed and re-suspended in phosphate buffered saline (PBS) until analysis[1].

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

CUSTOMER VALIDATION

- Nat Commun. 2021 Aug 16;12(1):4961.
- JHEP Rep. 2022: 100652.

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REFERENCES

[1]. Dourado M, et al. CD26/DPPIV expression and 8-azaguanine response in T-acute lymphoblastic leukaemia cell lines in culture. Pathophysiology. 2007 May;14(1):3-10.

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