Azathioprine sodium

Cat. No.: HY-B0256A

CAS No.: 55774-33-9

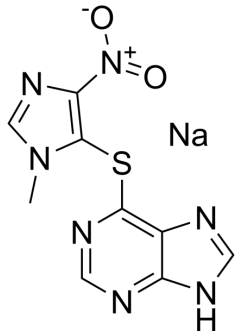
Molecular Formula: $C_9H_7N_7NaO_2S$

Molecular Weight: 300.25

Target: Apoptosis

Pathway: Apoptosis

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Azathioprine (BW 57-322) sodium is an orally active immunosuppressive agent. Azathioprine can be converted in vivo to the active metabolite 6-mercaptopurine (6-MP). Azathioprine has myelosuppressive effects and induces apoptosis[1][3].

In Vitro

Azathioprine (0-50 μM, 48 hours) sodium can induce severe intracellular GSH depletion with relevant concentrations in both primary rat and human hepatocytes[2].

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

Cell Viability Assay[2]

Cell Line:	Rat hepatocytes, Human hepatocytes
Concentration:	0-50 μM
Incubation Time:	24-48 hours
Result:	Showed the decrease in cell viability and intracellular GSH levels in rat hepatocytes as low concentration of 0.5 μM but no significant decrease in cell viability at concentrations below 50 μM as well as GSH depletion was obviously noted at a concentration as low as 1 μ M in human hepatocytes.

In Vivo

Azathioprine (oral gavage, 25-400 mg/kg, everyday, 10days) sodium can affect bone marrow cells, red blood cells, and peripheral blood cytokines and other related parameters in a dose-dependent manner, and can induce apoptosis in female CD-1 mice and ICR mice[3].

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

Animal Model:	Outbred female CD-1 mice, Female ICR mice[3]
Dosage:	25-400 mg/kg
Administration:	Oral gavage; everyday; 10days
Result:	Induced a decrease in erythrocyte-related parameters as well as leukocyte-related parameters in a dose-dependent manner. Induced 52.4%, 35.4%, 17.9%, 16.1% and 15.2% reduction in bone marrow cells at

	concentrations of 40, 60, 80, 100 and 120 mg/kg, respectively while fms-like tyrosine kinase-3(FLT-3) ligand (FL)-related cytokines were increased. Increased induction of apoptosis.

CUSTOMER VALIDATION

- APL Bioeng. 2023 Aug 11;7(3):036108.
- Comput Struct Biotec. 2023 Feb 24.
- Biotechnol Bioeng. 2021 Sep 3.
- PLoS Negl Trop Dis. 2019 Aug 20;13(8):e0007681.

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REFERENCES

[1]. SoniaChavez-Alvarez, et al. Azathioprine: its uses in dermatology. An Bras Dermatol. 2020 Nov-Dec;95(6):731-736.

[2]. Yue-Ting Wu, et al. Azathioprine hepatotoxicity and the protective effect of liquorice and glycyrrhizic acid. Phytother Res. 2006 Aug;20(8):640-5. doi: 10.1002/ptr.1920.

[3]. Gemma Molyneux, et al. The haemotoxicity of azathioprine in repeat dose studies in the female CD-1 mouse. Int J Exp Pathol. 2008 Apr;89(2):138-58.

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