Allopurinol sodium

Cat. No.: HY-B0219A

CAS No.: 17795-21-0

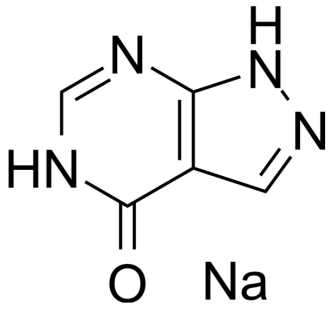
Molecular Formula: $C_5H_4N_4NaO$

Molecular Weight: 159.1

Target: Xanthine Oxidase

Pathway: Metabolic Enzyme/Protease

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



SOLVENT & SOLUBILITY

In Vitro

H_2O : 50 mg/mL (314.27 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	6.2854 mL	31.4268 mL	62.8535 mL
	5 mM	1.2571 mL	6.2854 mL	12.5707 mL
	10 mM	0.6285 mL	3.1427 mL	6.2854 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Allopurinol sodium is a potent and orally active xanthine oxidase inhibitor with an IC_{50} value of 0.2-50 μM. Allopurinol sodium can be used in the research of hyperuricemia and gout. Allopurinol sodium decreases the expression of HIF-1α and HIF-2α protein. Allopurinol sodium shows anti-depressant and anti-nociception activity. Anti-leishmanial effect[1][2][3][4][5].

In Vitro

Allopurinol sodium (0, 10, 100, 1000 μg/ml; 17 h) decreases the expression of HIF-1α and HIF-2α protein in HFF and HUVEC cells[5].

Allopurinol sodium (0, 10, 100, 1000 μg/ml; 24 h) reduces angiogenesis traits of HUVEC cells[5].

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

Western Blot Analysis[5]

Cell Line:	HFF, HUVEC cells
Concentration:	0, 10, 100, 1000 μg/ml
Incubation Time:	17 h
Result:	Reduced HIF-1α and HIF-2α protein expression in a dose dependent manner.

In Vivo

Allopurinol sodium (39 mg/kg; p.o.; daily for 21 successive days) shows anti-depressant activity in mouse[3].
Allopurinol sodium (10-400 mg/kg; i.p.) induces anti-nociception activity in mouse[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	20-30 g, male Swiss Albino mice[3]
Dosage:	39 mg/kg
Administration:	P.o.; daily for 21 successive days
Result:	Reduced the immobility time in the FST with the immobility time of 129.8±10.5 s.

Animal Model:	30-40 g, male adult Swiss albino mice[4]
Dosage:	10, 50, 100, 200, 400 mg/kg
Administration:	I.p.
Result:	Produced dose-dependent anti-nociception in the tail-flick, hot-plate.

CUSTOMER VALIDATION

- Commun Biol. 2022 Jul 22;5(1):726.
- J Biol Chem. 2021 Sep 3;101166.
- Pharmaceuticals. 2023, 16(3), 361.
- Cytokine. 2023 Jan 9;163:156120.

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REFERENCES

[1]. Karve AV, et al. Evaluation of effect of allopurinol and febuxostat in behavioral model of depression in mice. Indian J Pharmacol. 2013 May-Jun;45(3):244-7.

[2]. Schmidt AP, et al. Anti-nociceptive properties of the xanthine oxidase inhibitor allopurinol in mice: role of A1 adenosine receptors. Br J Pharmacol. 2009 Jan;156(1):163-72.

[3]. Sun Y, et al. Dose-dependent effects of allopurinol on human foreskin fibroblast cells and human umbilical vein endothelial cells under hypoxia. PLoS One. 2015 Apr 1;10(4):e0123649.

[4]. Pacher P, et al. Therapeutic effects of xanthine oxidase inhibitors: renaissance half a century after the discovery of allopurinol. Pharmacol Rev. 2006;58(1):87-114.

[5]. Pfaller MA, et al. Antileishmanial effect of allopurinol. Antimicrob Agents Chemother. 1974;5(5):469-472.

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