

Uric acid sodium

Chemical Properties

CAS No. :	1198-77-2
Formula:	C ₅ H ₃ N ₄ NaO ₃
Molecular Weight:	190.09
Storage:	Keep away from direct sunlight, Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>

Biological Description

Description	Uric acid sodium is a potent and widely recognized antioxidant with the ability to scavenge oxygen free radicals, helping to maintain blood pressure stability and counteract oxidative stress. It effectively eliminates reactive oxygen species (ROS), such as singlet oxygen and peroxy nitrite, and inhibits lipid peroxidation. Additionally, uric acid sodium is closely associated with the pathogenesis of gouty arthritis and the formation of calcium oxalate stones, and it can be used to induce hypertension models.
Targets(IC50)	Reactive Oxygen Species
In vitro	Uric acid, when administered at a concentration of 400 μ M for 48 hours, offers protection to Caco-2 cells by preventing indomethacin-induced lipid peroxidation [2]. Furthermore, co-treatment of cells with indomethacin and uric acid sodium (200 μ M indomethacin plus 400 μ M uric acid; 24 hours) significantly reduces reactive oxygen species (ROS) levels compared to cells treated with indomethacin alone. Additionally, cell viability in Caco-2 cells exposed to both indomethacin and uric acid sodium (200 μ M indomethacin plus 400 μ M uric acid; 24 hours) is higher compared to cells treated solely with indomethacin. The protective effect of uric acid sodium on indomethacin-induced changes in intestinal cells is attributed to its antioxidant activity [2].
In vivo	Oral treatment of uric acid sodium at a dosage of 250 mg/kg has a beneficial effect on indomethacin-induced enteropathy. It ameliorates the enteropathy caused by indomethacin. Oral treatment of uric acid sodium leads to a reduction in ROS accumulation in the ileum in a mouse model of indomethacin-induced enteropathy [2].

Solubility Information

Solubility	DMSO: 2.8 mg/mL (14.73 mM), when pH is adjusted to 4 with HCl. Sonication and heating to 60°C are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.2607 mL	26.3033 mL	52.6067 mL
5 mM	1.0521 mL	5.2607 mL	10.5213 mL
10 mM	0.5261 mL	2.6303 mL	5.2607 mL
50 mM	0.1052 mL	0.5261 mL	1.0521 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

- Wang Q, , et al. Recent Progress on Uric Acid Detection: A Review. Crit Rev Anal Chem. 2020;50(4):359-375.
Song J Q, Shen L J, Wang H J, et al. Discovery of Balasubramide Derivative with Tissue-Specific Anti-Inflammatory Activity Against Acute Lung Injury by Targeting VDAC1. Advanced Science. 2024: 2410550.

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