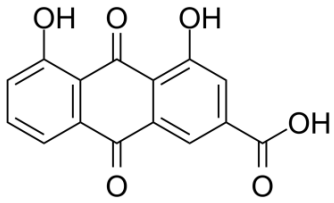
Rhein



Cat. No.:	HY-N0105
CAS No.:	478-43-3
Molecular Formula:	$C_{15}H_8O_6$
Molecular Weight:	284.22
Target:	Autophagy; Reactive Oxygen Species; Bacterial
Pathway:	Autophagy; Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB; Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month

SOLVENT & SOLUBILITY

In Vitro

DMSO : 12.17 mg/mL (**42.82 mM;** Need ultrasonic and warming)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5184 mL	17.5920 mL	35.1840 mL
	5 mM	0.7037 mL	3.5184 mL	7.0368 mL
	10 mM	0.3518 mL	1.7592 mL	3.5184 mL

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

BIOLOGICAL ACTIVITY

Description

Rhein is a lipophilic anthraquinone extensively found in medicinal herbs, and has many pharmacological effects, including epatoprotective, nephroprotective, anti-inflammatory, antioxidant, anticancer, and antimicrobial activities. IC50 value:Target:In vitro: Rhein (0.1 and 1 mg/mL) evidently suppressed cell proliferation and mitogen-activated protein (MAP) kinase activation in human colon adenocarcinoma cells (Caco-2) but significantly lessened H2O2-induced DNA damage and the elevated MDA and ROS levels induced by H2O2/Fe2+ at the concentrations of 0.1–10 mg/mL [1].In vivo: Oral administration of rhein (150 mg/kg/d) evidently ameliorated renal interstitial fibrotic lesions and attenuated the expression of α-SMA and deposition of fibronectin (FN) in mice with renal interstitial fibrosis induced by unilateral ureteral obstruction. Rhein also suppressed TGF-β1 and its type I receptor expression in obstructed kidneys [1]. The biochemical parameters results of IgAN model rats showed that rhein-prevented and rhein-treated both improved the biochemical parameters and relieved renal pathological injury. The expressions of renal tissue TLR4, TGF-β1, but not TLR9 were significantly elevated in IgAN model rats ($P < 0.05$). Rhein-prevented and rhein-treated both inhibited TLR4 and TGF-β1 expressions [2].

CUSTOMER VALIDATION

- **Biochem Biophys Res Commun**. 2018 Sep 3;503(1):297-303.

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REFERENCES

[1]. Xiaowen Chen, et al. Toll-like receptor 4 is involved in a protective effect of rhein on immunoglobulin A nephropathy. Indian J Pharmacol. 2015 Jan-Feb; 47(1): 27–33.

[2]. Hou ML, et al. The Drug-Drug Effects of Rhein on the Pharmacokinetics and Pharmacodynamics of Clozapine in Rat Brain Extracellular Fluid by In Vivo Microdialysis. J Pharmacol Exp Ther. 2015 Oct;355(1):125-34.

[3]. Yan-Xi Zhou, et al. Rhein: A Review of Pharmacological Activities. Evid Based Complement Alternat Med. 2015; 2015: 578107.

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