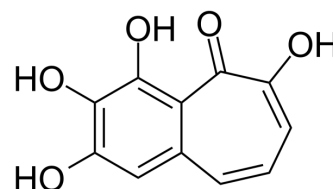


Purpurogallin

Cat. No.:	HY-12136		
CAS No.:	569-77-7		
Molecular Formula:	C ₁₁ H ₈ O ₅		
Molecular Weight:	220.18		
Target:	Xanthine Oxidase		
Pathway:	Metabolic Enzyme/Protease		
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 : 100 mg/mL (454.17 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	4.5417 mL	22.7087 mL	45.4174 mL
		5 mM	0.9083 mL	4.5417 mL	9.0835 mL
10 mM		0.4542 mL	2.2709 mL	4.5417 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: ≥ 2.08 mg/mL (9.45 mM); Clear solution 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (9.45 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Purpurogallin is a naturally phenol extracted from the plants of Quercus spp, has potent xanthine oxidase (XO) inhibitory activity with an IC ₅₀ of 0.2 μM. Purpurogallin has antioxidant and anti-inflammatory effects ^{[1][2][3]} .
IC₅₀ & Target	IC ₅₀ : 0.2 μM (xanthine oxidase) ^[3]
In Vitro	Purpurogallin (50 or 100 μM; 7 or 25 hours; BV2 murine microglial cells) treatment attenuates the production of pro-inflammatory cytokines, including interleukin-1β (IL-1β) and tumor necrosis factor-α (TNF-α) by suppressing their mRNA and protein expression in LPS-stimulated BV2 microglial cells ^[1] . Purpurogallin (100 μM; 75-120 minutes; BV2 murine microglial cells) exhibits anti-inflammatory properties by suppressing the phosphatidylinositol 3-kinase/Akt and mitogen-activated protein kinase signaling pathways in LPS-stimulated BV2

microglial cells^[1].

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

RT-PCR^[1]

Cell Line:	BV2 murine microglial cells
Concentration:	50 or 100 μ M
Incubation Time:	7 or 25 hours
Result:	Attenuated the production of pro-inflammatory cytokines, including interleukin-1 β (IL-1 β) and tumor necrosis factor- α (TNF- α) by suppressing their mRNA and protein expression.

Western Blot Analysis^[1]

Cell Line:	BV2 murine microglial cells
Concentration:	100 μ M
Incubation Time:	75 minutes, 90 minutes, 120 minutes
Result:	Suppressed the phosphatidylinositol 3-kinase/Akt and mitogen-activated protein kinase signaling pathways.

In Vivo

Purpurogallin (100-400 μ g/kg; intraperitoneal injection; for 48 or 72 hours; male Sprague-Dawley rats) exerts its neuroinflammation effect through the dual effect of inhibiting IL-6 and TNF- α mRNA expression and reducing HMGB1 protein and mRNA expression^[2].

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

Animal Model:	Fifty-four male Sprague-Dawley rats (250-350 g) with subarachnoid hemorrhage (SAH) ^[2]
Dosage:	100 μ g/kg, 200 μ g/kg, 400 μ g/kg
Administration:	Intraperitoneal injection; for 48 or 72 hours
Result:	Dose-dependently reduced HMGB1 protein expression. High dose reduced TNF- α and HMGB1 mRNA levels.

CUSTOMER VALIDATION

- Int Immunopharmacol. 2022 Aug 11;111:109057.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Park HY, et al. Purpurogallin exerts anti-inflammatory effects in lipopolysaccharide-stimulated BV2 microglial cells through the inactivation of the NF- κ B and MAPK signaling pathways. Int J Mol Med. 2013 Nov;32(5):1171-8.

[2]. Chang CZ, et al. Purpurogallin, a natural phenol, attenuates high-mobility group box 1 in subarachnoid hemorrhage induced vasospasm in a rat model. Int J Vasc Med. 2014;2014:254270.

[3]. Honda S, et al. Conversion to purpurogallin, a key step in the mechanism of the potent xanthine oxidase inhibitory activity of pyrogallol. Free Radic Biol Med. 2017 May;106:228-235.

Caution: Product has not been fully validated for medical applications. For research use only.

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