Hederacoside C

Cat. No.: HY-N0253

CAS No.: 14216-03-6

Molecular Formula: $C_{59}H_{96}O_{26}$

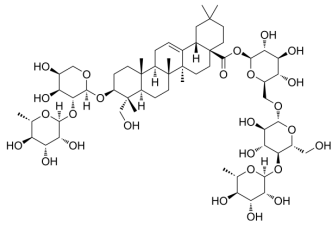
Molecular Weight: 1221.38

Target: Bacterial; p38 MAPK; NF-κB; Apoptosis

Pathway: Anti-infection; MAPK/ERK Pathway; NF-κB; Apoptosis

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (81.87 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.8187 mL	4.0937 mL	8.1875 mL
	5 mM	0.1637 mL	0.8187 mL	1.6375 mL
	10 mM	0.0819 mL	0.4094 mL	0.8187 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: ≥ 2.5 mg/mL (2.05 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (2.05 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Hederacoside C (Kalopanaxsaponin B) is an ingredient that can be obtained mainly from ivy leaves. Hederacoside C mediates inflammation by inhibiting activation of MAPK/NF-κB and its downstream signaling pathway. Hederacoside C has anti-inflammatory and antibacterial activity[1][2][3].

In Vitro

Hederacoside C (0.1, 1, 10 μM, 1 h) inhibits MAPK/NF-κB and the activation of its downstream signaling pathway in human intestinal epithelial Caco-2 cells to reduce inflammatory response[1].
Hederacoside C (5, 10, 50 μg/mL, 1 h) has anti-inflammatory effects on RAW 264.7 cells stimulated by Staphylococcus aureus

[2].

Hederacoside C (5, 10 μg/mL, 2 h) has a protective effect on ECM degradation induced by senescence of mouse chondrocytes[3].

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

Western Blot Analysis[1]

Cell Line:	Caco-2
Concentration:	0.1, 1, 10 μM
Incubation Time:	1 h
Result:	Reduced the expression of p-p65/p65, p-JNK, p-ERK, and p-p38.

RT-PCR[2]

Cell Line:	RAW 264.7
Concentration:	5, 10, 50 μg/mL
Incubation Time:	1 h
Result:	Reduced the expressions of IL-1β, IL-6, TNF-α, and IL-10.

In Vivo

Hederacoside C (0.625, 1.25, 2.5 mg/kg, intraperitoneally injected for 7 consecutive days) can alleviate TNBS-induced enteritis[1].

Hederacoside C (5, 10, 50 mg/kg, intraperitoneally injected for 3 consecutive times for 8 h) can attenuate the breast lesions caused by Staphylococcus aureus[2].

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

Animal Model:	TNBS-induced colitis in rat[1]
Dosage:	0.625, 1.25, 2.5 mg/kg
Administration:	i.p. for 7 days
Result:	Decreased the levels of inflammatory cytokines, including TNF-α, IL-6, IL-1β, CXCL-1, CXCL-2, and CXCL-5. Reduced cell apoptosis in TNBS-induced colitis. Reduced Bax/Bcl-2 ratio, cleaved caspase 3, and p53 protein levels in a dose-dependent manner.

REFERENCES

[1]. Zha ZX, et al. Hederacoside C ameliorates colitis via restoring impaired intestinal barrier through moderating S100A9/MAPK and neutrophil recruitment inactivation. Acta Pharmacol Sin. 2023 Jan;44(1):105-119.

[2]. Akhtar M, et al. Hederacoside-C Inhibition of Staphylococcus aureus-Induced Mastitis via TLR2 & TLR4 and Their Downstream Signaling NF-κB and MAPKs Pathways In Vivo and In Vitro. Inflammation. 2020 Apr;43(2):579-594.

[3]. Xu HC, et al. Hederacoside-C protects against AGEs-induced ECM degradation in mice chondrocytes. Int Immunopharmacol. 2020 Jul;84:106579.

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

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