Esculentoside A

Cat. No.: HY-N0632

CAS No.: 65497-07-6

Molecular Formula: $C_{42}H_{66}O_{16}$

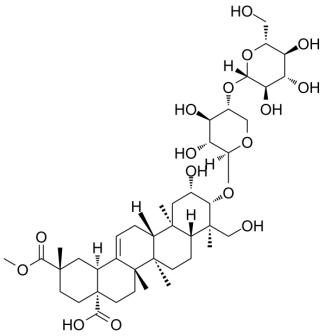
Molecular Weight: 826.96

Target: COX; NF-κB

Pathway: Immunology/Inflammation; NF-κB

Storage:

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (120.92 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.2092 mL	6.0462 mL	12.0925 mL
	5 mM	0.2418 mL	1.2092 mL	2.4185 mL
	10 mM	0.1209 mL	0.6046 mL	1.2092 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 (3.02 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.02 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.02 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Esculentoside A (EsA), a kind of triterpene saponin isolated from roots of Phytolacca esculenta[1].Esculentoside A (EsA) possesses anti-inflammatory activity in acute and chronic experimental models[2], has selective inhibitory activity towards cyclooxygenase-2 (COX-2)[1].Esculentoside A (EsA) suppresses inflammatory responses in LPS-induced acute lung injury (ALI) through inhibition of the nuclear factor kappa B (NF-KB) and mitogen activated protein kinase (MAPK) signaling pathways[3].

In Vitro

Esculentoside A (0-10 μM; 24 hours) reduced the release of TNF concentration in primed macrophages [4].

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

In Vivo

Esculentoside A (EsA) (intraperitoneal injection; 20 mg/kg; once a day; 4 weeks) plays significant roles in the treatment of BXSB mice through modulation of inflammatory cytokines, inhibition of renal cell proliferation and induction of apoptosis [2].

Esculentoside A (EsA) (injected intraperitoneally; 5, 10 and 20 mg/kg; once a day; 7 days) dose-dependently decreases the TNF, IL-1 and IL-6 levels in the sera of mice following LPS challenge[4].

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

Animal Model:	BXSB mice[2]
Dosage:	20 mg/kg
Administration:	Intraperitoneal injection; 20 mg/kg; once a day; 4 weeks
Result:	Alleviated the renal damage of LN.

CUSTOMER VALIDATION

- Phytomedicine. April 2022, 153956.

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REFERENCES

[1]. Wu F, et al. Synthesis, in vitro inhibitory activity towards COX-2 and haemolytic activity of derivatives of esculentoside A. Bioorg Med Chem Lett. 2007 Dec 1;17(23):6430-3. Epub 2007 Oct 5.

[2]. Ma H, et al. The effect of esculentoside A on lupus nephritis-prone BXSB mice. Arch Med Sci. 2013 Apr 20;9(2):354-60.

[3]. Zhong WT, et al. Protective effect of esculentoside A on lipopolysaccharide-induced acute lung injury in mice. J Surg Res. 2013 Nov;185(1):364-72.

[4]. Ju DW, et al. Esculentoside A inhibits tumor necrosis factor, interleukin-1, and interleukin-6 production induced by lipopolysaccharide in mice. Pharmacology. 1998 Apr;56(4):187-95

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