Rubusoside

Cat. No.: HY-N0668

CAS No.: 64849-39-4

Molecular Formula: $C_{32}H_{50}O_{13}$

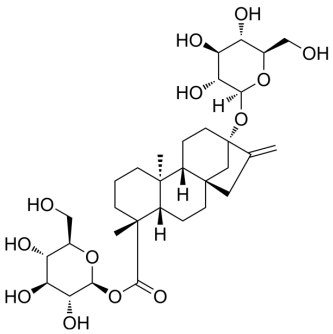
Molecular Weight: 642.73

Target: GLUT; Amylases; NF-κB

Pathway: Membrane Transporter/Ion Channel; Metabolic Enzyme/Protease; NF-κB

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 : 110 mg/mL (171.14 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.5559 mL	7.7793 mL	15.5586 mL
	5 mM	0.3112 mL	1.5559 mL	3.1117 mL
	10 mM	0.1556 mL	0.7779 mL	1.5559 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: ≥ 2.75 mg/mL (4.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.75 mg/mL (4.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (4.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Rubusoside is a diterpene glycoside that is also a sweetener and solubilizer with anti-angiogenic, anti-cancer, anti-obesity, anti-allergic and anti-asthmatic effects. Rubusoside attenuates airway hyperresponsiveness and reduces inflammatory cells in bronchoalveolar lavage fluid (BALF), reducing OVA (HY-W250978)-induced airway inflammation. Rubusoside also prevents palmitic acid-induced lipotoxicity in pancreatic INS-1 cells, reduces the transport of human glucose transporters GLUT-1 and fructose GLUT-5, and inhibits NF-κB and α-amylase (α-amylase)[1][2][3][4].

In Vivo

Rubusoside (50-300 mg/kg; po; single dose) exerts anti-inflammatory and antiasthmatic activities in an OVA-induced

experimental allergic asthma mouse model. Moreover, Rubusoside inhibits OVA-induced activation of the NF-κB pathway in lung tissue[4].

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

Animal Model:	Ovalbumin（OVA）induced mice allergic asthma model[4]
Dosage:	50, 150, 300 mg/kg
Administration:	po; mixed with PBS (phosphate-buffered saline, pH 7.4) 1 hr before OVA treatment (intraperitoneal injected with 20 μg OVA and intranasal spray 1% OVA solution from Day 21 to Day 23)
Result:	Contributed to the decrease of inflammatory cytokines (TNF-α, IL-13, IL-6, IL-5, and IL-4) inside the BALF of mice with asthma. Led a decline of OVA-dependent IgE and IgG1 inside the serum was also noticed in these mice. Enhanced the mRNA level of Foxp3 inside the mice lung affected with asthma while decrease that of IL-17A, IL-23, and RORγt.

CUSTOMER VALIDATION

- J Food Biochem. 2020 May;44(5):e13187.
- Microbiol Spectr. 2023 Sep 21;e0267123.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Wang Z et al. Selective production of rubusoside from stevioside by using the sophorose activity of β-glucosidase from Streptomyces sp. GXT6. Appl Microbiol Biotechnol. 2015 Nov;99(22):9663-74.

[2]. Zheng H, et al. Metabolomics analysis of the protective effect of rubusoside on palmitic acid-induced lipotoxicity in INS-1 cells using UPLC-Q/TOF MS. Mol Omics. 2019 Jun 1;15(3):222-232.

[3]. Ko JA et al. Mass production of rubusoside using a novel stevioside-specific β-glucosidase from Aspergillus aculeatus. J Agric Food Chem. 2012 Jun 20;60(24):6210-6.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA