Hyperoside

Cat. No.: HY-N0452

CAS No.: 482-36-0

Molecular Formula: $C_{21}H_{20}O_{12}$

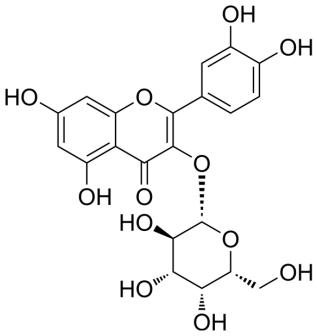
Molecular Weight: 464.38

Target: Influenza Virus; Fungal; NF-κB; Apoptosis

Pathway: Anti-infection; NF-κB; Apoptosis

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 : 125 mg/mL (269.18 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1534 mL	10.7670 mL	21.5341 mL
	5 mM	0.4307 mL	2.1534 mL	4.3068 mL
	10 mM	0.2153 mL	1.0767 mL	2.1534 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 10 mg/mL (21.53 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.48 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.48 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Hyperoside is a NF-κB inhibitor, found from Hypericum monogynum. Hyperoside shows anti-tumor, antifungal, anti-inflammatory, anti-viral, and anti-oxidative activities, and can induce apoptosis[1][2].

In Vitro

Hyperoside (12.5-100 μM; 6-24 h) inhibits MCF-7 and 4T1 cell growth[2].
Hyperoside (25-100 μM; 24 h) induces apoptosis of breast cancer cells[2].
Hyperoside inhibits the activation of the NF-κB signaling pathway via the attenuation of intracellular ROS generation[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	MCF-7 and 4T1 cells
Concentration:	12.5, 25, 50, 75, or 100 μM
Incubation Time:	6, 12, or 24 h
Result:	Inhibited cell growth in a time- and concentration-dependent manner.

Apoptosis Analysis[2]

Cell Line:	MCF-7 and 4T1 cells
Concentration:	25, 50 and 100 μM
Incubation Time:	24 h
Result:	Increased the expressions of Bax, cleaved caspase-3 and cleaved PARP, and decreased Bcl-2 in mRNA and protein levels.

In Vivo

Hyperoside (intraperitoneal injection; 50 mg/kg; every two day for 18 days) treatment inhibits breast tumor growth in vivo[1].

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

Animal Model:	Balb/c mice injected with 4T1 cells[2]
Dosage:	50 mg/kg
Administration:	Intraperitoneal injection; 50 mg/kg; every two day for 18 days
Result:	Reduced the average tumor volume compared to the control group. Decreased Bcl-2 and increased bax and cleaved caspase-3.

CUSTOMER VALIDATION

- Food Chem. 2022: 134807.
- Phytomedicine. 2022 Jul;101:154113.
- PeerJ. 2023 May 18.
- Univerzita Karlova v Praz. 2021 Oct.

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REFERENCES

[1]. Qiu J, et al. Hyperoside Induces Breast Cancer Cells Apoptosis via ROS-Mediated NF-κB Signaling Pathway. Int J Mol Sci. 2019 Dec 24;21(1):131.

[2]. Li S, et al. Antifungal activity of camptothecin, trifolin, and hyperoside isolated from Camptotheca acuminata. J Agric Food Chem. 2005 Jan 12;53(1):32-7.

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

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