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Lieferung & Zahlungsart

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Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
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Ginsenoside Rk1

Cat. No.: HY-N2515

CAS No.: 494753-69-4

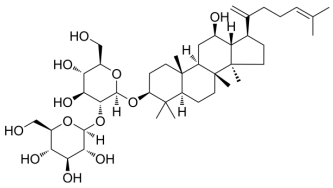
Molecular Formula: $C_{42}H_{70}O_{12}$

Molecular Weight: 767

Target: NF-κB; PI3K; JAK; Apoptosis

Pathway: NF-κB; PI3K/Akt/mTOR; Epigenetics; JAK/STAT Signaling; Protein Tyrosine Kinase/RTK; Stem Cell/Wnt; Apoptosis

Storage: -20°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

Ethanol : 100 mg/mL (130.38 mM; Need ultrasonic)
DMSO : 50 mg/mL (65.19 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.3038 mL	6.5189 mL	13.0378 mL
	5 mM	0.2608 mL	1.3038 mL	2.6076 mL
	10 mM	0.1304 mL	0.6519 mL	1.3038 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 (3.26 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (3.26 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (3.26 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ginsenoside Rk1 is a unique component created by processing the ginseng plant (mainly Sung Ginseng, SG) at high temperatures[1].Ginsenoside Rk1 has anti-inflammatory effect, suppresses the activation of Jak2/Stat3 signaling pathway and NF-κB[2].Ginsenoside Rk1 has anti-tumor effect, antiplatelet aggregation activities, anti-insulin resistance, nephroprotective effect, antimicrobial effect, cognitive function enhancement, lipid accumulation reduction and prevents osteoporosis[1].Ginsenoside Rk1 induces cell apoptosis by triggering intracellular reactive oxygen species (ROS) generation and blocking PI3K/Akt pathway[3].

In Vitro

Ginsenoside Rk1 (0-40 μM; 6 hours) inhibits MCP-1 and TNF-α mRNA induced by lipopolysaccharide (LPS), expression of IL-1β is inhibited at 40 μM[2].

Ginsenoside Rk1 (0-40 μM; 24 hours) inhibits phosphorylation of JAK2 and STAT3 (Tyr705 and Ser727) in LPS-induced RAW264.7 cells in a dose-dependent manner[2].

Ginsenoside Rk1 (0-160 μM; 48 hours) results in cell viability significant decrease 75.52 ± 2.51% (40 μM), 52.72 ± 2.54% (80 μM), 17.41 ± 2.94% (120 μM)and 12.63 ± 3.24% (160 μM) compared with control[3].

Ginsenoside Rk1 (0-120 μM; 24 hours) increases G0/G1 phase proportion accompanied with S and G2/M phase proportion decrease in MDA-MB-231 cells[3].

Ginsenoside Rk1 (0-120 μM; 24 hours) promotes the percentage of apoptotic cells in a dose-dependent manner, exhibits to reduction of cell number with nucleus fragmentation, condensation and apoptotic body formation[3].

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

RT-PCR[2]

Cell Line:	RAW264.7 cells
Concentration:	10 μM, 20 μM, 40 μM
Incubation Time:	6 hours
Result:	Inhibited JAK2-dependent STAT3 activation in LPS-activated RAW264.7 cells.

Western Blot Analysis[2]

Cell Line:	RAW264.7 cells
Concentration:	10 μM, 20 μM, 40 μM
Incubation Time:	6 hours
Result:	Inhibited JAK2-dependent STAT3 activation in LPS-activated RAW264.7 cells

Cell Viability Assay[3]

Cell Line:	MDA-MB-231 cells
Concentration:	0 μM, 40 μM, 80 μM, 120 μM
Incubation Time:	48 hours
Result:	Inhibited MDA-MB-231 cells proliferation in a dose- and time-dependent manner.

Cell Cycle Analysis[3]

Cell Line:	MDA-MB-231 cells
Concentration:	0 μM, 40 μM, 80 μM, 120 μM
Incubation Time:	24 hours
Result:	Induced G0/G1 phase arrest.

Apoptosis Analysis[3]

Cell Line:	MDA-MB-231 cells
Concentration:	0 μM, 40 μM, 80 μM, 120 μM
Incubation Time:	24 hours

Result:	Induced apoptosis in MDA-MB-231 cells.

CUSTOMER VALIDATION

- Biomed Pharmacother. 2024 Mar 21:174:116468.
- Food Funct. 2024 Apr 17.
- Food Funct. 2022 Apr 4;13(7):3793-3811.
- Am J Chin Med. 2024 May 27:1-17.
- Pharmaceuticals. 2024 Jul 2.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Elshafay A, et al. Ginsenoside Rk1 bioactivity: a systematic review. PeerJ. 2017 Nov 17;5:e3993.

[2]. Yu Q,et al. Ginsenoside Rk1 suppresses pro-inflammatory responses in lipopolysaccharide-stimulated RAW264.7 cells by inhibiting the Jak2/Stat3 pathway. Chin J Nat Med. 2017 Oct;15(10):751-757.

[3]. Hong Y, et al. Ginsenoside Rk1 induces cell cycle arrest and apoptosis in MDA-MB-231 triple negative breast cancer cells. Toxicology. 2019 Apr 15;418:22-31.

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