

Produktinformation



Forschungsprodukte & Biochemikalien
Zellkultur & Verbrauchsmaterial
Diagnostik & molekulare Diagnostik
Laborgeräte & Service

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Lieferung & Zahlungsart siehe unsere Liefer- und Versandbedingungen

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Cafestol

Cat. No.: CAS No.: Molecular Formula: Molecular Weight: Target: Pathway:	HY-N6257 469-83-0 C ₂₀ H ₂₈ O ₃ 316.43 ERK; PGE synthase; COX; NF-κB; Apoptosis; Autophagy; AP-1; FAK MAPK/ERK Pathway; Stem Cell/Wnt; Immunology/Inflammation; NF-κB; Apoptosis; Autophagy; Protein Tyrosine Kinase/RTK	
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)	

SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (3	ng/mL (316.03 mM; Need ultrasonic)			
	Preparing Stock Solutions	Solvent Mass Concentration	1 mg	5 mg	10 mg
		1 mM	3.1603 mL	15.8013 mL	31.6026 mL
		5 mM	0.6321 mL	3.1603 mL	6.3205 mL
	10 mM	0.3160 mL	1.5801 mL	3.1603 mL	
	Please refer to the solubility information to select the appropriate solvent.				
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (7.90 mM); Clear solution				
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (7.90 mM); Clear solution				

BIOLOGICAL ACTIV			
Description	Cafestol is an orally active diterpenoid and an inhibitor of ERK2. Cafestol has elevated blood lipids, anti-inflammatory, anti- angiogenic and anti-diabetic activities. In addition, Cafestol induces tumor cell apoptosis and autophagy, which can be used in the study of cancer ^{[1][2][3][4]} .		
IC ₅₀ & Target	COX-2	NF-кВ	ERK2
In Vitro	Cafestol (0-100 μM; 6-24 h) inhibits PGE ₂ production in a dose-dependent manner, with an IC ₅₀ of 45.7 μM, and decreases COX-2 mRNA levels in LPS (HY-D1056) treated macrophages ^[1] . Cafestol (0-100 μM; 1 h) inhibits AP-1 activation and ERK2 activity in LPS (HY-D1056) treated macrophages ^[1] . Cafestol (0-80 μM; 6-24 h) inhibits the proliferation, migration and lumen formation of human umbilical vein endothelial cells by inhibiting the phosphorylation of FAK, Akt and the production of NO ^[2] .		

Product Data Sheet



RT-PCR ^[1]	ntly confirmed the accuracy of these methods. They are for reference only.
Cell Line:	LPS (HY-D1056) treated RAW264.7 cells
Concentration:	100 μM
Incubation Time:	6 h
Result:	Significantly reduced the level of COX-2 mRNA.
Western Blot Analysis ^[2]	I
Cell Line:	HUVECs
Concentration:	2.5, 5, 10 and 20 μM
Incubation Time:	1.5 h
Result:	Inhibited the phosphorylation of FAK and Akt in a dose-dependent manner.
	oral gavage ; 20 days) has antitumor effect in xenografted mouse model of colon cancer ^[3] .
Cafestol (40-80 mg/kg; c Cafestol (0.4-1.1 mg/day MCE has not independe	ntly confirmed the accuracy of these methods. They are for reference only.
Cafestol (40-80 mg/kg; c Cafestol (0.4-1.1 mg/day MCE has not independe Animal Model:	HCT116 cells treated BALB/C null mice ^[3]
Cafestol (40-80 mg/kg; c Cafestol (0.4-1.1 mg/day MCE has not independe Animal Model: Dosage:	HCT116 cells treated BALB/C null mice ^[3] 40 and 80 mg/kg
Cafestol (40-80 mg/kg; c Cafestol (0.4-1.1 mg/day MCE has not independe Animal Model: Dosage: Administration:	HCT116 cells treated BALB/C null mice ^[3] 40 and 80 mg/kg Oral gavage (i.g.); 20 days

Animal Model:	Male KKAy mice ^[4]
Dosage:	0.4 and 1.1 mg/day
Administration:	Feed administration; 10 weeks
Result:	Reduced fasting plasma glucose and increased insulin secretion. Reduced fasting glucagon was 20% lower and insulin sensitivity improved by 42% at dose of 1.1 mg.

CUSTOMER VALIDATION

• bioRxiv. 2023 Jun 3.

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In Vivo

REFERENCES

[1]. Wang S, et al. Antiangiogenic properties of cafestol, a coffee diterpene, in human umbilical vein endothelial cells. Biochem Biophys Res Commun. 2012 May 11;421(3):567-71.

[2]. Feng Y, et al. Cafestol inhibits colon cancer cell proliferation and tumor growth in xenograft mice by activating LKB1/AMPK/ULK1-dependent autophagy. J Nutr Biochem. 2024 Jul;129:109623.

[3]. Mellbye FB, et al. Cafestol, a Bioactive Substance in Coffee, Has Antidiabetic Properties in KKAy Mice. J Nat Prod. 2017 Aug 25;80(8):2353-2359.

[4]. Shen T, et al. Cafestol, a coffee-specific diterpene, is a novel extracellular signal-regulated kinase inhibitor with AP-1-targeted inhibition of prostaglandin E2 production in lipopolysaccharide-activated macrophages. Biol Pharm Bull. 2010;33(1):128-32.

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

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