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Produktinformation

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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5,7,3',4'-Tetramethoxyflavone

Cat. No.: HY-N7030

CAS No.: 855-97-0

Molecular Formula: $C_{19}H_{18}O_6$

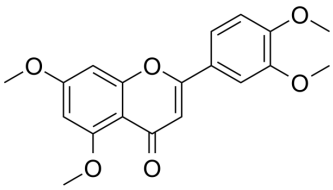
Molecular Weight: 342.35

Target: Fungal; Parasite; Bacterial

Pathway: Anti-infection

Storage: 4°C, protect from light

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 8.33 mg/mL (24.33 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9210 mL	14.6049 mL	29.2099 mL
	5 mM	0.5842 mL	2.9210 mL	5.8420 mL
	10 mM	0.2921 mL	1.4605 mL	2.9210 mL

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

BIOLOGICAL ACTIVITY

Description

5,7,3',4'-Tetramethoxyflavone, an orally active polymethoxyflavones (PMFs) that can be isolated from M. exotica, possesses various bioactivities, including anti-fungal, anti-malarial, anti-mycobacterial, and anti-inflammatory activities. 5,7,3',4'-Tetramethoxyflavone exhibits chondroprotective activity by targeting β-catenin signaling[1].

IC_{50} & Target

Plasmodium

In Vitro

5,7,3',4'-Tetramethoxyflavone (5-20 μg/mL, 24 h) inhibits the expression of EP2, EP4, bcatenin and COX-2 gene in chondrocytes[1].

5,7,3',4'-Tetramethoxyflavone (5-20 μg/mL, 48 h) inhibits the protein expression of EP/cAMP/PKA signaling pathway and β-catenin signaling pathway in chondrocytes[1].

5,7,3',4'-Tetramethoxyflavone (5-20 μg/mL, 4 h) protects chondrocytes from apoptosis through regulating IRE1α[2].

5,7,3',4'-Tetramethoxyflavone (5-20 μg/mL, 4 h) reverses the expression pattern of endoplasmic reticulum (ER) stress genes due to IRE1α deficiency[2].

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

Cell Line:	

Concentration:	
Incubation Time:	
Result:	

Western Blot Analysis[2]

Cell Line:	Chondrocytes
Concentration:	5-20 μg/mL
Incubation Time:	4 h
Result:	Increased the protein level of Bcl-2 and XBP1s. Decreased the expression of pro-apoptotic factors CHOP/caspase-3 and stress kinase JNK.

In Vivo

5,7,3',4'-Tetramethoxyflavone (25-100 mg/kg, i.g.) exhibits chondroprotective activity in rats[1].
5,7,3',4'-Tetramethoxyflavone (5-20 mg/kg; i.v., p.o.) has the absolute bioavailability of 14.3 % in rats[3].

Pharmacokinetic Analysis in Sprague-dawley Rats Model[3]

Route	Dose (mg/kg)	AUC (min μg/mL)	AUC/Dose (min/mL)	$t_{1/2}$ (h)	T_{max} (h)	C_{max} (ng/mL)	Bioavailability (%)
i.v.	5	161.49 ± 58.78	0.1154 ± 0.0420	62.85 ± 27.92	/	/	14.3
p.o.	50	231.43 ± 71.87	0.0165 ± 0.0051	273.76 ± 90.23	190.34 ± 24.50	0.79 ± 0.30	/

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

Animal Model:	Rat knee OA model[1]
Dosage:	25-100 mg/kg
Administration:	i.g.
Result:	Decreased the contents of IL-1b, TNF-a, and PGE2 in a dose-dependent manner. Decreases the expression of the inflammatory cytokines in rat knee osteoarthritis (OA) synovial fluid (SF) lavages. Inhibited chondrocytes hypertrophy and decreased the cartilage thickness. Exhibited down regulation of b-catenin in a dose-dependent manner.

REFERENCES

[1]. Wu L, et al. 5,7,3',4'-Tetramethoxyflavone protects chondrocytes from ER stress-induced apoptosis through regulation of the IRE1α pathway. Connect Tissue Res. 2018 Mar;59(2):157-166.

[2]. Wei G, et al. Absolute bioavailability, pharmacokinetics and excretion of 5,7,30 ,40 -tetramethoxyflavone

[3]. Wu L, et al. 5,7,3',4'-Tetramethoxyflavone exhibits chondroprotective activity by targeting β-catenin signaling in vivo and in vitro. Biochem Biophys Res Commun. 2014 Sep 26;452(3):682-8.

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