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Produktinformation

- Forschungsprodukte & Biochemikalien
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- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Ethyl cinnamate

Cat. No.: HY-Y0121

CAS No.: 103-36-6

Molecular Formula: $C_{11}H_{12}O_2$

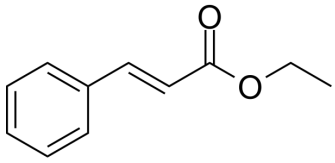
Molecular Weight: 176.21

Target: Parasite; VEGFR; Apoptosis

Pathway: Anti-infection; Protein Tyrosine Kinase/RTK; Apoptosis

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (567.50 mM; Need ultrasonic)

H_2O : 100 mg/mL (567.50 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	5.6750 mL	28.3752 mL	56.7505 mL
	5 mM	1.1350 mL	5.6750 mL	11.3501 mL
	10 mM	0.5675 mL	2.8375 mL	5.6750 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 (14.19 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (14.19 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (14.19 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ethyl cinnamate, an orally active chemical constituent of the rhizome of Kaempferia galanga, exhibits anti-cancer, nematocidal, sedative and vasorelaxant activities. Ethyl cinnamate is a fragrance ingredient used as a food flavor and additive for cosmetic products. Ethyl cinnamate is also an excellent clearing reagent for mammalian tissues. Ethyl cinnamate suppresses tumor growth through anti-angiogenesis by attenuating VEGFR2 signal pathway in colorectal cancer. Ethyl cinnamate inhibits the tonic contractions induced by high K+ and phenylephrine (PE) with respective IC_{50} values of 0.30 mM and 0.38 mM in rat aorta[1][2][3][4].

In Vitro

Ethyl cinnamate (0-80 μM, 24 h and 48 h) inhibits VEGF-induced viability, motility, tube formation of Human umbilical vein endothelial cells (HUVECs) in a VEGFR2-dependent manner and induces HUVECs apoptosis[3].

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

Cell Proliferation Assay[3]

Cell Line:	HUVECs
Concentration:	0-80 μM
Incubation Time:	24 h
Result:	Significantly inhibited HUVECs proliferation enhanced by vascular endothelial growth factor (VEGF).

Apoptosis Analysis[3]

Cell Line:	HUVECs
Concentration:	0-80 μM
Incubation Time:	48 h
Result:	Increased apoptosis rate of cells and decreased the expression levels of Bcl-2/Bax with an IC_{50} value of 31.79 μM in HUVECs.

In Vivo

Ethyl cinnamate (1-4 μM, incubation, a single dose) inhibits blood vessel formation in zebrafish embryos[3].

Ethyl cinnamate (15, 30, 60 mg/kg, p.o., daily for 21 days) suppresses tumor growth and angiogenesis of HT29 nude mouse colon cancer xenograft model[3].

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

Animal Model:	Zebrafish embryos[3]
Dosage:	1-4 μM
Administration:	incubation, a single dose for 24 h and 48 h
Result:	Significantly decreased the number of intact intersegmental vessels (ISVs) and inhibited the growth of SIVs in Zebrafish embryos.

Animal Model:	HT29 nude mouse colon cancer xenograft model[3]
Dosage:	15, 30, 60 mg/kg
Administration:	p.o., daily for 21 days
Result:	Significantly inhibited the tumor growth and inhibited the expression levels of p-VEGFR2, p-Akt, p-ERK1/2, CD34, VEGF and Bcl-2/Bax in a dose-dependent manner in HT29 nude mouse colon cancer xenograft model.

REFERENCES

[1]. Wang S, et al. Ethyl cinnamate suppresses tumor growth through anti-angiogenesis by attenuating VEGFR2 signal pathway in colorectal cancer. J Ethnopharmacol. 2024 May 23;326:117913.

[2]. Othman R, et al. Vasorelaxant effects of ethyl cinnamate isolated from Kaempferia galanga on smooth muscles of the rat aorta. Planta Med. 2002 Jul;68(7):655-7.

[3]. S P Bhatia, et al. Fragrance material review on ethyl cinnamate. Food Chem Toxicol. 2007;45 Suppl 1:S90-4.

[4]. Anika Klingberg, et al. Fully Automated Evaluation of Total Glomerular Number and Capillary Tuft Size in Nephritic Kidneys Using Lightsheet Microscopy. J Am Soc Nephrol. 2017 Feb;28(2):452-459.

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