Zingerone

Cat. No.: HY-14621

CAS No.: 122-48-5

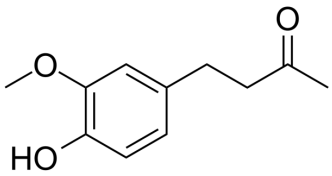
Molecular Formula: $C_{11}H_{14}O_3$

Molecular Weight: 194.23

Target: NF-κB

Pathway: NF-κB

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (514.85 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	5.1485 mL	25.7427 mL	51.4854 mL
	5 mM	1.0297 mL	5.1485 mL	10.2971 mL
	10 mM	0.5149 mL	2.5743 mL	5.1485 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 (12.87 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (12.87 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (12.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Zingerone (Vanillylacetone) is a nontoxic methoxyphenol isolated from Zingiber officinale, with potent anti-inflammatory, antidiabetic, antilipolytic, antidiarrhoeic, antispasmodic and anti-tumor[3] properties[1]. Zingerone alleviates oxidative stress and inflammation, down-regulates NF-κB mediated signaling pathways[2]. Zingerone acts as an anti-mitotic agent, and inhibits the growth of neuroblastoma cells[3].

IC_{50} & Target

NF-κB[3]

In Vitro

Zingerone is a nontoxic methoxyphenol with potent anti-inflammatory, antidiabetic, antilipolytic, antidiarrhoeic, antispasmodic properties[1].

	Zingerone (0-2 mM) decreases neruoblastoma cell survival[3]. Zingerone (0-2 mM) reduces cyclin D1 expression, increases cleavage of caspase-3 and PARP-1 in BE(2)-M17 cells[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Zingerone (50, 100 mg/kg, p.o. daily for 21 days) protects against alloxan-induced diabetes via alleviation of oxidative stress and inflammation in rat[2]. Zingerone (10 mg/kg, i.p.) inhibits tumor progression through mitotic arrest, failure of cell division, and stimulation of apoptosis[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Int J Mol Sci. 2022, 23(17), 9696.

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REFERENCES

[1]. Ahmad B, et al. A Review on Pharmacological Properties of Zingerone (4-(4-Hydroxy-3-methoxyphenyl)-2-butanone). ScientificWorldJournal. 2015;2015:816364.

[2]. Ahmad B, et al. Zingerone (4-(4-hydroxy-3-methylphenyl) butan-2-one) protects against alloxan-induced diabetes via alleviation of oxidative stress and inflammation: Probable role of NF-kB activation. Saudi Pharm J. 2018 Dec;26(8):1137-1145.

[3]. Choi JS, et al. Zingerone Suppresses Tumor Development through Decreasing Cyclin D1 Expression and Inducing Mitotic Arrest. Int J Mol Sci. 2018 Sep 19;19(9).

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