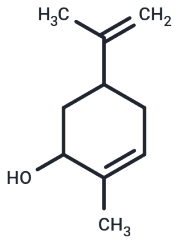
Data Sheet (Cat.No.TN3604)

TargetMol

Carveol

Chemical Properties



CAS No. : 99-48-9

Formula: C10H16O

Molecular Weight: 152.23

Appearance: Liquid

Storage: Pure form: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	(-)-Carveol ((-)-Carveol, mixture of isomers), mixture of isomers is a monocyclic monoterpenic alcohol, present in essential oils of plant species such as Cymbopogon giganteus, Illicium pachyphyllum and in spices such as Carum carvi (cumin).
Targets(IC50)	Endogenous Metabolite
In vitro	(-)-Carveol exhibited a significant vasorelaxant effect on KCl and 5-HT-induced contractions, obtaining EC50 values of 344.25 ± 8.4 and 175.82 ± 4.05 μM, respectively. The participation of calcium channels in the relaxation produced by (-)-carveol was analyzed using vessels pre-incubated with (-)-carveol (2000 μM) in a calcium-free medium, where the induction of contractions was abolished. The vasorelaxant effect of (-)-carveol on HUAs was reduced by tetraethylammonium (TEA), which increased the (-)-carveol EC50 to 484.87 ± 6.55 μM. The present study revealed that (-)-carveol possesses a vasorelaxant activity in HUAs, which was dependent on the opening of calcium and potassium channels[1].
In vivo	(-)-Carveol has low toxicity, with a lethal dose 50% (LD50) equal to or greater than 2,500 mg/kg according to OECD guide no 423. In all gastric ulcer induction methods evaluated, (-)-Carveol (25, 50, 100 and 200 mg/kg, p.o.) significantly reduced the ulcerative lesion in comparison with the respective control groups. In the experimental protocol of pylorus ligation-induced gastric ulcer, (-)-Carveol (100 mg/kg) reduced ($p < 0.001$) the volume of gastric secretion in both routes (oral and intraduodenal). The previous administration of blockers NEM (sulfhydryl groups blocker), L-NAME (nitric oxide synthesis inhibitor), glibenclamide (KATP channel blocker) and indomethacin (cyclo-oxygenase inhibitor), significantly reduced the gastroprotection exercised by (-)-Carveol, suggesting the participation of these pathways in its gastroprotective activity. In addition, treatment with (-)-Carveol (100 mg/kg) increased ($p < 0.001$) mucus adhered to the gastric wall. Treatment also increased ($p < 0.001$) levels of reduced glutathione (GSH), superoxide dismutase (SOD) and interleukin-10 (IL-10). It also reduced ($p < 0.001$) malondialdehyde (MDA), myeloperoxidase (MPO), interleukin-1 beta (IL-1β) and tumor necrosis factor-alpha (TNF-α) levels[2].

Solubility Information

Solubility	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (13.14 mM),Sonication is recommended. DMSO: 50 mg/mL (328.45 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.569 mL	32.845 mL	65.6901 mL
5 mM	1.3138 mL	6.569 mL	13.138 mL
10 mM	0.6569 mL	3.2845 mL	6.569 mL
50 mM	0.1314 mL	0.6569 mL	1.3138 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Evaristo Rodrigues da Silva R, et al. Relaxant Effect of Monoterpene (-)-Carveol on Isolated Human Umbilical Cord Arteries and the Involvement of Ion Channels. Molecules. 2020 Jun 9;25(11):2681.

Serafim CAL, et al. (-)-Carveol Prevents Gastric Ulcers via Cytoprotective, Antioxidant, Antisecretory and Immunoregulatory Mechanisms in Animal Models. Front Pharmacol. 2021 Aug 23;12:736829.