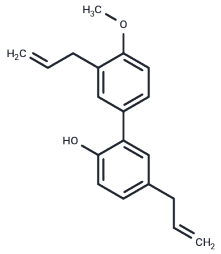
Data Sheet (Cat.No.T10153)

TargetMol

4-O-Methyl honokiol

Chemical Properties



CAS No. : 68592-15-4

Formula: C19H20O2

Molecular Weight: 280.36

Storage: Store at low temperature
Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	4-O-Methyl honokiol (4-O-Methylhonokiol) is a lignan-like compound obtained from Magnolia officinalis and Magnolia officinalis. It is a PPARγ agonist with antiangiogenic, anticancer, anti-inflammatory, and neuroprotective properties, and it can inhibit the activity of NF-κB, which can be used in cancer research.
Targets(IC50)	NF-κB,PPAR
In vitro	4-O-Methyl honokiol (20 μM) increases the expression, transcription, DNA binding activities, and nuclear translocation of PPARγ in both prostate PC-3 and LNCap cells.[1] 4-O-Methyl honokiol (0-30 μM) inhibits LNCaP and PC-3 cancer cell growth, causes G0/G1 phase arrest, and induces apoptotic cell death, and such effects can be reversed by PPARγ antagonist. 4-O-Methyl honokiol inhibits NF-κB activity and cancer cell growth, but such effects as well as its activation of PPARγ can be abolished by knockdown of p21.[1] 4-O-methyl honokiol (0.5, 1, and 2 μM) reduces LPS-induced release of NO, PGE2, ROS, TNF-α, and IL-1β in cultured astrocytes, and amyloidogenesis in cultured astrocytes and microglial BV-2 cells.[2]
In vivo	4-O-Methyl honokiol (40 or 80 mg/kg; i.p.; every day for 4 weeks) inhibits the growth of SW620 and PC3 tumors in the SW620 and PC3 xenograft model. 4-O-Methyl honokiol significantly increases the expression of p21 and PPARγ in the tumor tissues.[1] 4-O-Methyl honokiol (0.5 or 1 mg/kg; every day for 3 weeks) significantly ameliorates LPS-induced memory impairment and inhibits LPS-induced iNOS and COX-2 expression in mice. 4-O-Methyl honokiol also shows inhibitory activities against the Aβ1-42 accumulation and activates astrocytes and microglia in LPS-injected mice brains.[2]
Cell Research	Cells (5 × 10^4 cells per well) are plated onto 24-well plates. The cell growth inhibitory effect of 4-O-Methyl honokiol is evaluated in cells treated with 4-O-Methyl honokiol (0-30 μM) for 0-72 h, using an excluded trypan blue assay [1].
Animal Research	Six-week-old male BALB/c athymic nude mice are used in the assay. SW620 and PC3 cells are injected s.c. (1 × 10^7 cells in 0.1 mL PBS per animal) into the lower right flanks of mice. After 20 days, when the tumors have reached an average volume of 300-400 mm3 or about 50 mm3, the tumor-bearing nude mice are i.p. injected with 4-O-Methyl honokiol (40 and 80 mg/kg dissolved in 0.1% DMSO) twice per week for 3 weeks. Cisplatin (10 mg/kg) is also i.p. injected once a week as a positive control. The group

Animal Research	treated with 0.1% DMSO is designated as the control. The tumor volumes are measured with vernier calipers and calculated by the following formula: (A × B^2)/2, where A is the larger and B is the smaller of the two dimensions [1].

Solubility Information

Solubility	DMSO: 80 mg/mL (285.35 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5668 mL	17.8342 mL	35.6684 mL
5 mM	0.7134 mL	3.5668 mL	7.1337 mL
10 mM	0.3567 mL	1.7834 mL	3.5668 mL
50 mM	0.0713 mL	0.3567 mL	0.7134 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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Lee NJ, et al. 4-O-methylhonokiol, a PPARγ agonist, inhibits prostate tumour growth: p21-mediated suppression of NF-κB activity. Br J Pharmacol. 2013 Mar;168(5):1133-45.

Lee YJ, et al. Inhibitory effect of 4-O-methylhonokiol on lipopolysaccharide-induced neuroinflammation, amyloidogenesis and memory impairment via inhibition of nuclear factor-kappaB in vitro and in vivo models. J Neuroinflammation. 2012 Feb 19;9:35.