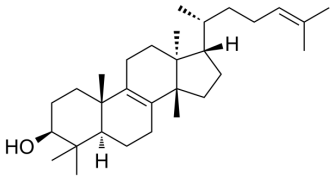
Euphol

Cat. No.:	HY-N0313
CAS No.:	514-47-6
Molecular Formula:	$C_{30}H_{50}O$
Molecular Weight:	426.72
Target:	MAGL; Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	-20°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (58.59 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.3435 mL	11.7173 mL	23.4346 mL
5 mM	0.4687 mL	2.3435 mL	4.6869 mL
10 mM	0.2343 mL	1.1717 mL	2.3435 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (5.86 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.86 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Euphol is a tetracyclic triterpene alcohol isolated from the sap of Euphorbia tirucalli with anti-mutagenic, anti-inflammatory and immunomodulatory effects, orally active. Euphol inhibits the monoacylglycerol lipase (MGL) activity via a reversible mechanism (IC_{50}=315 nM). MGL inhibition in the periphery modulates the endocannabinoid system to block the development of inflammatory pain[1].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Euphol (0.01-0.3 mM; 24-72 hours) markedly inhibits T47D cells proliferation, the IC_{50} values of euphol treatment for 24, 48 and 72 h were 0.26, 0.22 and 0.13 mM, respectively[2].
Euphol (0.03 mM; 48 or 72 hours) leads to cell cycle arrest by regulating expression of cell cycle-associated proteins[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[2]

Cell Line:	T47D cells
Concentration:	0.01, 0.03, 0.1 and 0.3 mM
Incubation Time:	24, 48 and 72 hours
Result:	Decreased the percentage of viable cells.

Western Blot Analysis[2]

Cell Line:	T47D cells
Concentration:	0.03 mM
Incubation Time:	48 and 72 hours
Result:	Increased the expression of p21 and p27, reduced the expression of cyclin A, B1 and D.

REFERENCES

[1]. Dutra RC, et al. Euphol, a tetracyclic triterpene produces antinociceptive effects in inflammatory and neuropathic pain: the involvement of cannabinoid system. Neuropharmacology. 2012 Sep;63(4):593-605.

[2]. Wang L, et al. Euphol arrests breast cancer cells at the G1 phase through the modulation of cyclin D1, p21 and p27 expression. Mol Med Rep. 2013 Oct;8(4):1279-85.

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