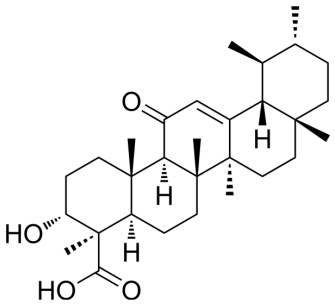
11-Keto-beta-boswellic acid

Cat. No.:	HY-N2056
CAS No.:	17019-92-0
Molecular Formula:	$C_{30}H_{46}O_4$
Molecular Weight:	470.68
Target:	Lipoxygenase; Leukotriene Receptor; NF-κB
Pathway:	Metabolic Enzyme/Protease; GPCR/G Protein; NF-κB
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (106.23 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1246 mL	10.6229 mL	21.2459 mL
	5 mM	0.4249 mL	2.1246 mL	4.2492 mL
	10 mM	0.2125 mL	1.0623 mL	2.1246 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 (5.31 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.5 mg/mL (5.31 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.31 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

11-Keto-beta-boswellic acid (11-Keto-β-boswellic acid) is a pentacyclic triterpenic acid of the oleogum resin from the bark of the Boswellia serrate tree, popularly known as Indian Frankincense. 11-Keto-beta-boswellic acid has the anti-inflammatory activity is primarily due to inhibit 5-lipoxygenase (5-LOX) and subsequent leukotriene and nuclear factor-kappa B (NF-κB) activation and tumor necrosis factor alpha generation production[1].

IC_{50} & Target		
	NF-κB	5-LOX

In Vitro

11-Keto-beta-boswellic acid inhibits DPP-4 activity with an IC_{50} of 1.65 μM[2].

11-Keto-beta-boswellic acid (10 min) inhibits 4-aminopyridine-stimulated glutamate release in rat hippocampal nerve

terminals (IC_{50}: 31 μM)[3].

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

In Vivo

11-Keto-beta-boswellic acid (1-10 mg/kg, p.o., for 21 days) shows anti-diabetic activity in Streptozotocin (HY-13753)-induced diabetic rats[2].

11-Keto-beta-boswellic acid (10 or 50 mg/kg, i.p.) protects rats against Kainic acid (HY-N2309) (15 mg/kg, i.p.)-induced excitotoxicity[3].

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

Animal Model:	Streptozotocin (HY-13753)-induced diabetic rats[2]
Dosage:	1-10 mg/kg
Administration:	p.o., for 21 days
Result:	Reduced blood glucose level. Reduced the serum SGPT, SGOT, ALP, and serum creatinine level. Decreased serum MDA level and increased serum SOD levels.

REFERENCES

[1]. Miscioscia E, et al. Measurement of 3-acetyl-11-keto-beta-boswellic acid and 11-keto-beta-boswellic acid in Boswellia serrata Supplements Administered to Dogs. BMC Vet Res. 2019 Aug 1;15(1):270.

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