Koumine

Cat. No.: HY-N1440

CAS No.: 1358-76-5

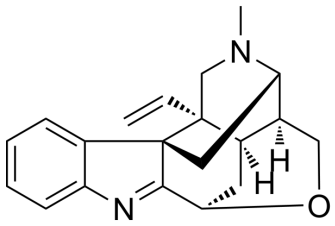
Molecular Formula: $C_{20}H_{22}N_2O$

Molecular Weight: 306.4

Target: Bcl-2 Family

Pathway: Apoptosis

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 33.33 mg/mL (108.78 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2637 mL	16.3185 mL	32.6371 mL
	5 mM	0.6527 mL	3.2637 mL	6.5274 mL
	10 mM	0.3264 mL	1.6319 mL	3.2637 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: ≥ 2.08 mg/mL (6.79 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.79 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.79 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Koumine is an alkaloid separated from Gelsemium elegans, shows potent anti-tumor activity. Koumine up-regulates the Bax/Bcl-2 ratio and caspase-3 expression in human breast cancer cells[1]. Koumine has anxiolytic, antistress, antipsoriatic, and analgesic activities[3], protects against the development of arthritis in Rheumatoid arthritis (RA) animal models[2].

In Vitro

Koumine (0.5, 1 and 2 mg/mL) dose- and time-dependently inhibits the proliferation of MCF-7 cells, with an IC_{50} of 124 μg/mL at 72 h. Koumine induces apoptosis, causes cell cycle arrest at G2/M phase[1].
Koumine (0.5, 1 and 2 mg/mL) up-regulates the Bax/Bcl-2 ratio and caspase-3 expression in a dose-dependent manner in MCF-7 Cells[1].

	Koumine (25, 50, 100, and 200 μM) decreases the protein and mRNA levels of microglia M1 polarization factors in LPS-induced BV2 cells[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Koumine is less toxic, with the median lethal dose (LD_{50}) of 300.0 mg/kg on Wistar rats. Koumine (0.6, 3, or 15 mg/kg/per, p.o.) exhibits antirheumatic properties in rats with adjuvant-induced arthritis (AIA) and collagen-induced arthritis (CIA)[2]. Koumine inhibits the increase in cytokines in joint tissue and TNF-α level in serum at 15 mg/kg, and suppresses the increase in the serum level of IL-1β at 3 and 15 mg/kg[2]. Koumine (0.28, 7 mg/kg, s.c.) significantly reduces neuropathic pain after nerve injury. Koumine suppresses the increased Iba-1 protein level[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Zhang X, et al. Apoptotic Effect of Koumine on Human Breast Cancer Cells and the Mechanism Involved. Cell Biochem Biophys. 2015 Jun;72(2):411-6.

[2]. Yang J, et al. Effects of Koumine on Adjuvant- and Collagen-Induced Arthritis in Rats. J Nat Prod. 2016 Oct 28;79(10):2635-2643.

[3]. Jin GL, et al. Koumine Attenuates Neuroglia Activation and Inflammatory Response to Neuropathic Pain. Neural Plast. 2018 Mar 25;2018:9347696.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA