Rhynchophylline

Cat. No.: HY-N0387

CAS No.: 76-66-4

Molecular Formula: $C_{22}H_{28}N_2O_4$

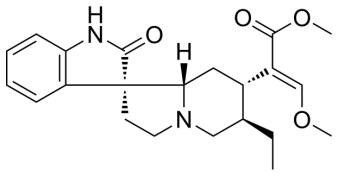
Molecular Weight: 384.47

Target: NF-κB

Pathway: NF-κB

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (65.02 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6010 mL	13.0049 mL	26.0098 mL
	5 mM	0.5202 mL	2.6010 mL	5.2020 mL
	10 mM	0.2601 mL	1.3005 mL	2.6010 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 (6.50 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.50 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Rhyncholphylline is an alkaloid compound isolated from Uncaria rhynchophyllum. Rhyncholphylline is an EphA4 inhibitor. It has high biological activity and is widely used in anti-inflammatory, neuroprotective and other research.[1][2][5][6].

In Vitro

Rhyncholphylline (0-30 μM, 48 h) inhibits the NO production, release of proinflammatory cytokines (TNF-α and IL-1β) in LPS-activated N9 microglial cells[1].
Rhyncholphylline (0-30 μM, 48 h) inhibits ERK and p38 MAPK phosphorylation in LPS-treated N9 microglial cells[1].
Rhyncholphylline inhibits ephrin-A1 induced tyrosine phosphorylation in rat cortical neurons[6].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	LPS (1 μg/mL) treated N9 cells
Concentration:	0-30 μM
Incubation Time:	48 h
Result:	Inhibited phosphorylated ERK and p38 MAPK level. Restored IκBα level

In Vivo

Rhynchophylline (10 and 30 mg/kg, i.p., once daily for 4 days) protects rats from pMCAO surgery induced ischemic brain damage[2].

Rhynchophylline (100 μM, 2 μL, injected bilaterally in the hippocamp) shows neuroprotective effects against Aβ1-42-induced neurotoxicity in rats[5].

Rhynchophylline (50 mg/kg, p.o., daily, 3-4 weeks) inhibits EphA4 activation in the hippocampus of APP/PS1 mice[6].

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

Animal Model:	Aβ1-42(1.6 μM, 2 μL) treated rats[5]
Dosage:	100 μM, 2 μL
Administration:	injected bilaterally in the hippocamp
Result:	Rescued the soluble Aβ1-42-induced spatial learning and memory deficits. Inhibited Aβ1-42-induced excessive activation of extrasynaptic NMDARs.

CUSTOMER VALIDATION

- Mol Cell Biochem. 2019 Nov;461(1-2):205-212.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Yang Y, et al. Rhynchophylline suppresses soluble Aβ1-42-induced impairment of spatial cognition function via inhibiting excessive activation of extrasynaptic NR2B-containing NMDA receptors. Neuropharmacology. 2018 Jun;135:100-112.

[2]. Fu AK, et al. Blockade of EphA4 signaling ameliorates hippocampal synaptic dysfunctions in mouse models of Alzheimer's disease. Proc Natl Acad Sci U S A. 2014 Jul 8;111(27):9959-64.

[3]. Dan Yuan, et al. Anti-inflammatory effects of rhynchophylline and isorhynchophylline in mouse N9 microglial cells and the molecular mechanism. International ImmunopharmacologyVolume 9, Issues 13–14, December 2009, Pages 1549–1554

[4]. Houcai Huang, et al. Neuroprotective Effects of Rhynchophylline Against Ischemic Brain Injury via Regulation of the Akt/mTOR and TLRs Signaling Pathways. Molecules 2014, 19 (8): 11196-11210; doi:10.3390/molecules190811196

[5]. Tai-Hyun Kang, et al. Protective effect of rhynchophylline and isorhynchophylline on in vitro ischemia-induced neuronal damage in the hippocampus: putative neurotransmitter receptors involved in their action. Life SciencesVolume 76, Issue 3, 3 December 2004, Pages 331–343

[6]. Kinzo Matsumoto, et al. Suppressive effects of isorhynchophylline on 5-HT2A receptor function in the brain: Behavioural and electrophysiological studies. European Journal of PharmacologyVolume 517, Issue 3, 11 July 2005, Pages 191–199

Caution: Product has not been fully validated for medical applications. For research use only.

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