Barlerin

Cat. No.: HY-N0758

CAS No.: 57420-46-9

Molecular Formula: $C_{19}H_{28}O_{12}$

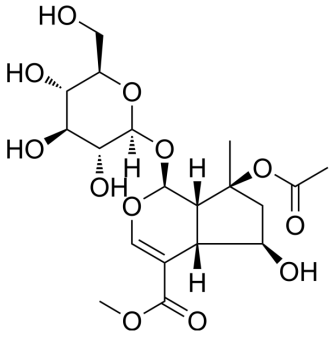
Molecular Weight: 448.42

Target: NF-κB; Caspase

Pathway: NF-κB; Apoptosis

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 : 100 mg/mL (223.01 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2301 mL	11.1503 mL	22.3005 mL
	5 mM	0.4460 mL	2.2301 mL	4.4601 mL
	10 mM	0.2230 mL	1.1150 mL	2.2301 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 (5.58 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.58 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.58 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Barlerin (8-O-Acetyl shanzhiside methyl ester) is an iridoid glucoside isolated from the leaves of Lamiophlomis rotata Kudo, a Chinese folk medicinal plant in Xi-zang. Barlerin (8-O-Acetyl shanzhiside methyl ester) could inhibt NF-κB.

IC_{50} & Target

NF-κB

In Vitro

Treatment of SH-SY5Y cells with Barlerin (8-O-Acetyl shanzhiside methyl ester) blocks TNF-α-induced nuclear transcription factor κB (NF-κB) activation and decreases high-mobility group box-1 (HMGB-1) expression. [1]. Treatment of H9c2 cells with

	Barlerin (8-O-Acetyl shanzhiside methyl ester) 9 μM blocks TNF-α-induced NF-κB phosphorylation by blocking High-mobility group box1 (HMGB1) expression[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Barlerin (8-O-Acetyl shanzhiside methyl ester) 40 mg/kg demonstrates significant neuroprotective effect even after delayed administration at 4 hr after I/R. Barlerin 40 mg/kg attenuates the histopathological damage, decreases brain swelling, inhibits NF-κB activation and reduces HMGB-1 expression in ischaemic brain tissue[1]. Barlerin (8-O-Acetyl shanzhiside methyl ester) significantly promotes angiogenesis in the ischaemic brain and improves functional outcome after stroke. Barlerin also significantly increases vascularization compared with vehicle treatment. It increases the expression of VEGF, Ang1, phosphorylation of Tie2 and Akt VEGF[3]. Barlerin (8-O-Acetyl shanzhiside methyl ester) significantly shortens capillary blood clotting time and reduces blood loss volume, but does not influence mice activated partial thromboplastin time, prothrombin time or thrombin time. It significantly prolongs euglobulin clot lysis time in hyperfibrinolysis mice[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [2]	Prior to hypoxia, cells are pretreated with various concentrations (1, 3, 9 and 27μM) of Barlerin (8-O-Acetyl shanzhiside methyl ester) for 24 h. Cell viability are determined by MTT assay[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [3][4]	Rats: Barlerin (8-O-Acetyl shanzhiside methyl ester) is prepared in saline. Adult male rats are subjected to 1 hr of middle cerebral artery occlusion (MCAO) and reperfusion, and treated with or without different doses (5 and 10 mg/kg) of ND01, starting 24 hr after ischaemia and reperfusion (I/R) and by intravenous injection daily for 14 days. Neurological functional tests are performed and cerebral Evans blue extravasation is measured[3]. Mouse: Barlerin (8-O-Acetyl shanzhiside methyl ester) is prepared in saline. Male Balb/C mice (20 to 25g) are randomly divided into five groups (saline group, Hemocoagulase, 0.34 KU/kg, i.v. ASM-L, 100 mg/kg, i.v., ASM-M, 250 mg/kg, i.v., ASM-H, 500 mg/kg, i.v.). The drugs and vehicle are injected through vena caudal is 5 min before anesthetized with sodium pentobarbital (200 mg/kg, i.p.). Twenty minutes after injection, blood are drawn from heart. Activated partial thromboplastin time, prothrombin time, thrombin time and fibrinogen are assayed[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Zhang L, et al. 8-O-acetyl shanzhiside methylester attenuates cerebral ischaemia/reperfusion injury through an anti-inflammatory mechanism in diabetic rats. Basic Clin Pharmacol Toxicol. 2014 Dec;115(6):481-7.

[2]. Kang ZC, et al. Cardioprotection with 8-O-acetyl shanzhiside methylester on experimental myocardial ischemia injury. Eur J Pharm Sci. 2012 Aug 30;47(1):124-30.

[3]. Jiang WL, et al. Effect of 8-O-acetyl shanzhiside methylester increases angiogenesis and improves functional recovery after stroke. Basic Clin Pharmacol Toxicol. 2011 Jan;108(1):21-7.

[4]. Fan PC, et al. A new anti-fibrinolytic hemostatic compound 8-O-acetyl shanzhiside methylester extracted from Lamiophlomis rotata. J Ethnopharmacol. 2016 Jul 1;187:232-8.

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