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产品名称：YS-49
产品别名：YS-49

生物活性：

Description	YS-49 is a PI3K/Akt (a downstream target of RhoA) activator, to reduce RhoA/PTEN activation in the 3-methylcholanthrene-treated cells. YS-49 inhibits angiotensin II (Ang II)-stimulated proliferation of VSMCs via induction of heme oxygenase (HO)-1. YS-49 is also an isoquinoline compound alkaloid, has a strong positive inotropic action through activation of cardiac β-adrenoceptors[1][2][3].	
In Vitro	YS-49 (1-100 μM; 18 hours; RAVSMC and RAW 264.7 cells) concentration-dependently inhibits the accumulation of nitrite in both RAVSMC and RAW 264.7 exposed to lipopolysaccharide (LPS) plus INF-γ, with IC50 values of 22 μM and 30 μM, respectively[2]. YS-49 (10-100 μM; 18 hours; RAVSMC and RAW 264.7 cells) suppresses iNOS gene expression induced by LPS and/or cytokines in RAVSMC and RAW 264.7 cells at the transcriptional level[2].	
	Cell Viability Assay[2]	
	Cell Line:	RAVSMC and RAW 264.7 cells
	Concentration:	10 μM, 30 μM and 100 μM (RAVSMC cells); 1 μM, 10 μM and 100 μM (RAW 264.7 cells)
	Incubation Time:	18 hours
	Result:	Inhibited the accumulation of nitrite in both RAVSMC and RAW 264.7 exposed to LPS+INF-γ, with IC_{50} values of 22 and 30 μM, respectively.
	Western Blot Analysis[2]	
	Cell Line:	RAVSMC and RAW 264.7 cells
	Concentration:	10 μM, 30 μM and 100 μM
	Incubation Time:	18 hours
	Result:	Concentration-dependently inhibited the expression of iNOS protein induced by LPS plus IFN-γ.
In Vivo	YS-49 (5 mg/kg; intraperitoneal injection; 8 hours; male Sprague Dawley rats) treatment significantly reduces serum NOx levels in LPS-treated rats, the NOx levels reduce from 86 μM to 34 μM[2].	
	Animal Model:	Male Sprague Dawley rats (250-300 g)[2]
	Dosage:	5 mg/kg
	Administration:	Intraperitoneal injection; 8 hours
	Result:	Serum NOx levels were significantly reduced.

In Vitro:

DMSO : ≥ 100 mg/mL (258.88 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	**1 mg**	**5 mg**	**10 mg**
	1 mM	2.5888 mL	12.9440 mL	25.8880 mL
	5 mM	0.5178 mL	2.5888 mL	5.1776 mL
	10 mM	0.2589 mL	1.2944 mL	2.5888 mL

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反

Solvent&Solubility	复冻融造成的产品失效。 储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。 -80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。 ***In Vivo:*** 请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 In Vitro 方式配制澄清的储备液，再依次添加助溶剂： ——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶 1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline Solubility: ≥ 2.5 mg/mL (6.47 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.47 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL。 2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (6.47 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.47 mM，饱和度未知) 的澄清溶液。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。 3.请依序添加每种溶剂： 10% DMSO →90% corn oil Solubility: ≥ 2.5 mg/mL (6.47 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.47 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Sun JJ, Kim HJ, Seo HG, et al. YS49,1-(alpha-naphtylmethyl)-6,7-dihydroxy-1,2,3,4-tetrahydroisoquinoline,regulates angiotensin II-stimulated ROS production, JNK phosphorylation and vascular smooth muscle cell proliferation via the induction of heme oxygenase-1. Life Sci. 2008;82(11-12):600-7. [2]. Kang YJ, et al. Prevention of the expression of inducible nitric oxide synthase by a novel positive inotropic agent, YS 49, in rat vascular smooth muscle and RAW 264.7 macrophages. Br J Pharmacol. 1999 Sep;128(2):357-64. [3]. Hsu YH, et al. RhoA-mediated inhibition of vascular endothelial cell mobility: positive feedback through reduced cytosolic p21 and p27. J Cell Physiol. 2014 Oct;229(10):1455-65.