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产品名称：VER 49009
产品别名：CCT 129397；VER-49009

生物活性：

Description	VER-49009 is a Hsp90 inhibitor, with an IC_{50} of 25 nM and a K_d of 78 nM.
IC_{50} & Target	HSP90
	25 nM (IC_{50})
In Vitro	VER-49009 is a Hsp90 inhibitor, with an IC_{50} of 25 nM. VER-49009 binds to the ATPase of full length yeast Hsp90 protein, with an IC_{50} of 140 nM[1]. VER-49009 inhibits Hsp90, with a K_d of 78 nM. VER-49009 also shows antiproliferative activities against various human cancer cells, with a mean GI_{50} of 685 ± 119 nM. VER-49009 suppressses the proliferation of human umbilical vein endothelial cells (HUVEC) with GI_{50} values of 444 ± 91.1 nM, and shows higher GI_{50}s against nontumorigenic human breast (MCF10a) and prostate (PNT2) epithelial cells. VER-49009 displays no differences in cellular activities of isogenic cell lines, and these activities are independent of NQO1 expression[2]. VER-49009 inhibits the proliferation (1, 2.5 μM), induces G2 phase arrest and reduces total Akt and phospho-Akt expression levels in CFSC cells (1-5 μM)[3].
In Vivo	VER-49009 (4 mg/kg, i.p.) results in clear depletion of ERBB2 at 3 and 8 h following the final dose, with client protein levels returning to normal by 24 h, in the athymic mice bearing well-established OVCAR3 human ovarian ascites tumors[2].

Solvent&Solubility

In Vitro:

DMSO : 100 mg/mL (**257.85 mM;** Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5785 mL	12.8926 mL	25.7852 mL
	5 mM	0.5157 mL	2.5785 mL	5.1570 mL
	10 mM	0.2579 mL	1.2893 mL	2.5785 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: ≥ 2.75 mg/mL (7.09 mM); Clear solution

此方案可获得 ≥ 2.75 mg/mL (7.09 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 27.5 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% corn oil Solubility: ≥ 2.75 mg/mL (7.09 mM); Clear solution 此方案可获得 ≥ 2.75 mg/mL (7.09 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 27.5 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Dymock BW, et al. Novel, potent small-molecule inhibitors of the molecular chaperone Hsp90 discovered through structure-based design. J Med Chem. 2005 Jun 30;48(13):4212-5. [2]. Sharp SY, et al. Inhibition of the heat shock protein 90 molecular chaperone in vitro and in vivo by novel, synthetic, potent resorcinylic pyrazole/isoxazole amide analogues. Mol Cancer Ther. 2007 Apr;6(4):1198-211. [3]. Sun X, et al. Inhibition of hepatic stellate cell proliferation by heat shock protein 90 inhibitors in vitro. Mol Cell Biochem. 2009 Oct;330(1-2):181-5.

实验参考：

Cell Assay	Briefly, 5 × 10^3 cells/well are plated in 96-well culture plates. After an overnight incubation, the cells are treated with various concentrations of VER-49009 and VER-49009M (0, 1, 2.5, and 5 μM) for 24 h[3].
Animal Administration	In some studies, female NCr athymic mice are implanted i.p. with 10 million OVCAR3 ovarian carcinoma cellsharvested from donor mice. This tumor mimics late-stage malignant disease. Once tumors are well established, mice are injected i.p. with 4 mg/kg VER-49009 or VER-50589 twice daily over 2 days (four doses total). Tumors are harvested at intervals after the last dose and snap frozen for pharmacodynamic analyses[1].
References	[1]. Dymock BW, et al. Novel, potent small-molecule inhibitors of the molecular chaperone Hsp90 discovered through structure-based design. J Med Chem. 2005 Jun 30;48(13):4212-5. [2]. Sharp SY, et al. Inhibition of the heat shock protein 90 molecular chaperone in vitro and in vivo by novel, synthetic, potent resorcinylic pyrazole/isoxazole amide analogues. Mol Cancer Ther. 2007 Apr;6(4):1198-211. [3]. Sun X, et al. Inhibition of hepatic stellate cell proliferation by heat shock protein 90 inhibitors in vitro. Mol Cell Biochem. 2009 Oct;330(1-2):181-5.