



上海源叶生物科技有限公司  
Shanghai yuanye Bio-Technology Co., Ltd  
电话: 021-61312973 传真: 021-55068248  
网址: [www.shyuanye.com](http://www.shyuanye.com)  
邮箱: [shyysw@sina.com](mailto:shyysw@sina.com)

产品名称: **COH29**  
产品别名: **RNR Inhibitor COH29**

生物活性:

Description	COH29 (RNR Inhibitor COH29) is a potent ribonucleotide reductase (RNR) inhibitor with anticancer activity. COH29 inhibits $\alpha$ and $\beta$ subunit of RNR with IC50s of 16 $\mu$ M.					
IC <sub>50</sub> & Target	IC50: 8 $\mu$ M (RNR, KB cell), 31.57 $\pm$ 3.35 $\mu$ M (RNR, OV90 cell)[2]					
In Vitro	COH29 (RNR Inhibitor COH29) overcome hydroxyurea and gemcitabine resistance in cancer cells. It effectively inhibits proliferation of most cell lines in the NCI 60 human cancer panel, most notably ovarian cancer and leukemia, but exerts little effect on normal fibroblasts or endothelial cells. Site-directed mutagenesis, NMR and surface plasmon resonance biosensor studies confirm COH29 binding to the proposed ligand-binding pocket and offer evidence for assembly blockade of the RRM1-RRM2 quaternary structure[1].					
In Vivo	COH29 results in a dose-dependent inhibition of MOLT-4 tumor xenograft growth with twice-daily oral dosing at 50 mg/kg and 100 mg/kg, which is pronounced by Day 12 of treatment. Similarly, 7 days of treatment of mice bearing TOV11D xenografts with 200, 300, or 400 mg/kg/day COH29 results in a dose-dependent inhibition of tumor xenograft growth. Tumor growth is significantly inhibited compared with the control group[1].					
Solvent&Solubility	<b>In Vitro:</b> DMSO : 50 mg/mL (118.92 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg
		1 mM		2.3785 mL	11.8923 mL	23.7846 mL
		5 mM		0.4757 mL	2.3785 mL	4.7569 mL
		10 mM		0.2378 mL	1.1892 mL	2.3785 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。					
	<b>In Vivo:</b> 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: $\geq$ 2.5 mg/mL (5.95 mM); Clear solution 此方案可获得 $\geq$ 2.5 mg/mL (5.95 mM, 饱和度未知) 的澄清溶液。 以 1 mL 工作液为例, 取 100 $\mu$ L 25.0 mg/mL 的澄清 DMSO 储备液加到 400 $\mu$ L PEG300 中, 混合均匀; 向上述体系中加入 50 $\mu$ L Tween-80, 混合均匀; 然后继续加入 450 $\mu$ L 生理盐水定容至 1 mL。					



上海源叶生物科技有限公司  
Shanghai yuanye Bio-Technology Co., Ltd  
电话: 021-61312973 传真: 021-55068248  
网址: [www.shyuanye.com](http://www.shyuanye.com)  
邮箱: [shyysw@sina.com](mailto:shyysw@sina.com)

	<p>2.请依序添加每种溶剂: 10% DMSO→ 90% (20% SBE-β-CD in saline)</p> <p>Solubility: ≥ 2.5 mg/mL (5.95 mM); Clear solution</p> <p>此方案可获得 ≥ 2.5 mg/mL (5.95 mM, 饱和度未知) 的澄清溶液。</p> <p>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 生理盐水溶液中, 混合均匀。</p> <p>3.请依序添加每种溶剂: 10% DMSO →90% corn oil</p> <p>Solubility: ≥ 2.5 mg/mL (5.95 mM); Clear solution</p> <p>此方案可获得 ≥ 2.5 mg/mL (5.95 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。</p> <p>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。</p>
References	<p>[1]. Zhou B, et al. A small-molecule blocking ribonucleotide reductase holoenzyme formation inhibits cancer cell growth and overcomes drug resistance.Cancer Res. 2013 Nov 1;73(21):6484-93.</p> <p>[2]. Chen MC, et al. The Novel Ribonucleotide Reductase Inhibitor COH29 Inhibits DNA Repair In Vitro. Mol Pharmacol. 2015 Jun;87(6):996-1005.</p>
实验参考:	
Cell Assay	<p>Cells is seeded into 96-well plates in 100 μL of complete medium at 2000 to 5000 cells per well, depending on the cell line's growth rate. After overnight incubation, test compound is added to each well at various concentrations in 50 μL of culture medium. After a further incubation for 96 hours at 37°C, fluorescein diacetate (final concentration: 10 mg/mL) and eosin Y [final concentration: 0.1% (w/v)] is added to each well, and the cells is incubated for an additional 20 minutes at 37°C. Cytotoxicity is assessed by Digital Imaging Microscopy System detection Viability is assessed using MTS [(3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyphenyl)-2-(4-sulfophenyl)-2H-tetrazolium)] as previously described[1].</p>
Animal Administration	<p>Female NSG mice (NOD/SCID/IL2Rgamma null) aged 8-10 weeks are supplied. Each mouse is injected with 5×10<sup>6</sup> Molt-4 or TOV-112D cells subcutaneously in the right flank, and tumor volume is monitored (0.5×l×w<sup>2</sup>). After the tumors reach approximately 70 mm<sup>3</sup>, COH29 in 30% solutol is administered daily by gavage in a one or two dose schedule. Mice is sacrificed on the 28th day after cancer cell transplantation[1].</p>
References	<p>[1]. Zhou B, et al. A small-molecule blocking ribonucleotide reductase holoenzyme formation inhibits cancer cell growth and overcomes drug resistance.Cancer Res. 2013 Nov 1;73(21):6484-93.</p> <p>[2]. Chen MC, et al. The Novel Ribonucleotide Reductase Inhibitor COH29 Inhibits DNA Repair In Vitro. Mol Pharmacol. 2015 Jun;87(6):996-1005.</p>