

产品名称：Nicaraven  
产品别名：烟拉文

生物活性:				
Description	Nicaraven is a novel chemically synthesized hydroxyl radical-specific scavenger.			
In Vitro	The maximum aggregation rate induced by adenosine diphosphate (ADP) is significantly inhibited by nicaraven at concentration ranges of 350 μM or higher in the healthy volunteer platelets. The maximum aggregation rate induced by collagen is significantly inhibited by 1.75 mM of nicaraven[1].			
In Vivo	Nicaraven inhibits lipid peroxidation in the liver, improves hepatic and systemic hemodynamics and energy metabolism, and suppresses liver enzyme release, endothelin-1 elevation in hepatic venous blood, histologic damage, and neutrophil infiltration into the liver[1]. Nicaraven increases the number of c-kit(+) stem/progenitor cells in bone marrow and peripheral blood, with a recovery rate around 60-90% of age-matched non-irradiated healthy mice. The potency of colony forming from hematopoietic stem/progenitor cells as indicator of function is completely protected with nicaraven treatment[2]. Administration of nicaraven significantly increases the number, improves the colony-forming capacity, and decreases the DNA damage of hematopoietic stem/progenitor cells. The urinary levels of 8-oxo-2'-deoxyguanosine, a marker of DNA oxidation, are significantly lower in mice that are given nicaraven compared with those that receive a placebo. The administration of nicaraven significantly decreases the levels of the inflammatory cytokines IL-6 and TNF-α in the plasma of mice[3].			
Solvent&Solubility	<b>In Vitro:</b> <b>DMSO : ≥ 100 mg/mL (351.73 mM)</b> <b>H<sub>2</sub>O : ≥ 50 mg/mL (175.86 mM)</b>  * "≥" means soluble, but saturation unknown.			
		<div><div>Solvent</div><div>Mass</div><div>Concentration</div></div>	1 mg	5 mg
	Preparing	1 mM	3.5173 mL	17.5864 mL
	Stock Solutions	5 mM	0.7035 mL	3.5173 mL
		10 mM	0.3517 mL	1.7586 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℃，6 months；-20℃，1 month。-80℃ 储存时，请在 6 个月内使用，-20℃ 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 <b>In Vitro</b> 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 (9.67 mM); Clear solution				
此方案可获得 ≥ 2.75 mg/mL (9.67 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。				

	<p>2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline)</p> <p>Solubility: ≥ 2.75 mg/mL (9.67 mM); Clear solution</p> <p>此方案可获得 ≥ 2.75 mg/mL (9.67 mM, 饱和度未知) 的澄清溶液。</p> <p>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 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。</p> <p>3.请依序添加每种溶剂： 10% DMSO →90% corn oil</p> <p>Solubility: ≥ 2.75 mg/mL (9.67 mM); Clear solution</p> <p>此方案可获得 ≥ 2.75 mg/mL (9.67 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 27.5 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]. Komiya T, et al. A novel free radical scavenger, nicaraven, inhibits human platelet aggregation in vitro. Clin Neuropharmacol. 1999 Jan-Feb;22(1):11-4.</p> <p>[2]. Yokota R, et al. A novel hydroxyl radical scavenger, nicaraven, protects the liver from warm ischemia and reperfusion injury. Surgery. 2000 Jun;127(6):661-9.</p> <p>[3]. Ali H, et al. The potential benefits of nicaraven to protect against radiation-induced injury in hematopoietic stem/progenitor cells with relative low dose exposures.</p> <p>[4]. Nicaraven attenuates radiation-induced injury in hematopoietic stem/progenitor cells in mice. PLoS One. 2013;8(3):e60023.</p>
实验参考：	
Animal Administration	<p>Mice: To investigate the protective effect and related mechanisms of nicaraven on radiation-induced injury in hematopoietic stem/progenitor cells, 12 mice are exposed to 1 Gy γ-rays daily for 5 days in succession (a total of 5 Gy) and are then given intraperitoneal injections of nicaraven (100 mg/kg/day, Nicaraven group; n=6) or saline only (Placebo group; n=6), respectively, soon after each exposure. The mice are sacrificed 2 days after the last exposure, and samples of urine, blood, and bone marrow cells are collected and used for the following experiments[3].</p>
References	<p>[1]. Komiya T, et al. A novel free radical scavenger, nicaraven, inhibits human platelet aggregation in vitro. Clin Neuropharmacol. 1999 Jan-Feb;22(1):11-4.</p> <p>[2]. Yokota R, et al. A novel hydroxyl radical scavenger, nicaraven, protects the liver from warm ischemia and reperfusion injury. Surgery. 2000 Jun;127(6):661-9.</p> <p>[3]. Ali H, et al. The potential benefits of nicaraven to protect against radiation-induced injury in hematopoietic stem/progenitor cells with relative low dose exposures.</p> <p>[4]. Nicaraven attenuates radiation-induced injury in hematopoietic stem/progenitor cells in mice. PLoS One. 2013;8(3):e60023.</p>