产品名称：尼美舒利
产品别名：Nimesulide

生物活性：

Description	Nimesulide is a selective COX-2 inhibitor, with IC_{50}s of 70 nM-70 μM in a time-dependent manner, but it shows no effect on COX-1 (IC_{50} >100 μM). Nimesulide has potent anti-inflammatory, analgesic and antipyretic properties.
IC_{50} & Target [1]	COX-2
	0.07-70 μM (IC_{50})
In Vitro	Nimesulide is a selective COX-2 inhibitor, with IC_{50}s of 70 nM-70 μM in a time-dependent manner, but it shows weak effect on COX-1 (IC_{50} >100 μM)[1]. Nimesulide (10 μM) effectively decreases VEGF in endometrium cancer cells, and shows no effect on that in normal cells. Nimesulide (10 and 50 μM) dramatically decreases MCP-1 levels in normal cell, and such an effect is also observed with 10 μM in cancer cells. In addition, Nimesulide (50 μM) potently affects IL-8 level in normal cells, but causes no changes in cancer cells[3].
In Vivo	Nimesulide (3 and 10 mg/kg, i.p.) effectively blocks fever induced by i.p. injection of LPS in rats. Nimesulide (3 mg/kg, i.p.) potently reduces fever response induced by IL-1β, IL-6 or TNF-α, but does not prevent the initial rise in the febrile response induced by arachidonic acid. Nimesulide also significantly reduces PGE2 levels and PGF2α levels in the cerebrospinal fluid of the LPS-stimulated animals, and inhibits the increase in plasma TNF-α by 97%[2].

Solvent&Solubility

In Vitro:

DMSO : ≥ 100 mg/mL (**324.35 mM**)

H_2O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2435 mL	16.2174 mL	32.4349 mL
	5 mM	0.6487 mL	3.2435 mL	6.4870 mL
	10 mM	0.3243 mL	1.6217 mL	3.2435 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: ≥ 2.5 mg/mL (8.11 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (8.11 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% corn oil Solubility: ≥ 2.5 mg/mL (8.11 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (8.11 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]. Vago T, et al. Effect of nimesulide action time dependence on selectivity towards prostaglandin G/H synthase/cyclooxygenase activity. Arzneimittelforschung. 1995 Oct;45(10):1096-8. [2]. Werner MF, et al. Nimesulide-induced antipyresis in rats involves both cyclooxygenase-dependent and independent mechanisms. Eur J Pharmacol. 2006 Aug 14;543(1-3):181-9. [3]. Genç S, et al. The effect of COX-2 inhibitor, nimesulide, on angiogenetic factors in primary endometrial carcinoma cell culture. Clin Exp Med. 2007 Mar;7(1):6-10.

实验参考：

Cell Assay	5×10^5 viable cells are carefully dislodged with sterile Pasteur pipettes, transferred into new flasks and incubated with two different doses of Nimesulide (10 and 50 μM) for another 24 h. Incubations for different doses of Nimesulide are repeated three times. The culture supernatant is then collected and stored in small aliquots at -70°C until studied. VEGF, MCP-1 and IL-8 concentrations are determined by sandwich quantitative enzyme immunoassay (ELISA) using commercial kits[3].
Animal Administration	Rats[2] In the initial experiments, rats are pre-treated with intraperitoneal injections of 1, 3 or 10 mg/kg doses of Nimesulide, diluted in a 5% cremophor vehicle, or 2 mg/kg of indomethacin diluted in tris(hydroximetyl)-aminomethane-HCl (TRIS), pH 8.2, 30 min prior to an i.p. injection of LPS (50 μg/kg). Control animals receive the appropriate vehicle plus saline (1 mL/200 g, i.p.). The dose of 3 mg/kg of Nimesulide is chosen for the remaining experiments. In another set of experiments, rats are pretreated with an i.p. injection of Nimesulide (3 mg/kg) or indomethacin (2 mg/kg), diluted in the appropriate vehicles, 30 min prior to an i.c.v. injection (2 μL over 1 min) of IL-1β (3.12 ng), IL-6 (300 ng), TNF-α (250 ng), arachidonic acid (50 μg), MIP-1α (500 ng), PGE2 (250 ng), PGF2α (250 ng), CRF (2 μg) or ET-1 (1 pmol). Control animals receive the appropriate vehicles (1 mL/200 g, i.p.) and sterile saline (2 μL over 1 min, i.c.v.). All the drugs are injected between 10:00 and 11:00 AM to avoid circadian rhythm variations[2].
References	[1]. Vago T, et al. Effect of nimesulide action time dependence on selectivity towards prostaglandin G/H synthase/cyclooxygenase activity. Arzneimittelforschung. 1995 Oct;45(10):1096-8. [2]. Werner MF, et al. Nimesulide-induced antipyresis in rats involves both cyclooxygenase-dependent and independent mechanisms. Eur J Pharmacol. 2006 Aug 14;543(1-3):181-9. [3]. Genç S, et al. The effect of COX-2 inhibitor, nimesulide, on angiogenetic factors in primary endometrial carcinoma cell culture. Clin Exp Med. 2007 Mar;7(1):6-10.