产品名称：金诺芬
产品别名：**Auranofin**

生物活性：

Description	Auranofin (SKF-39162) is a thioredoxin reductase (TrxR) inhibitor with an IC_{50} of 0.2 μM.
IC_{50} & Target	IC50: 0.2 μM (TrxR)[1]
In Vitro	Auranofin is a drug that is approved for the treatment of rheumatoid arthritis but is being investigated for potential therapeutic application in a number of other diseases including cancer, neurodegenerative disorders. Auranofin induces apoptosis in cells through a Bax/Bak-dependent mechanism associated with selective disruption of mitochondrial redox homeostasis in conjunction with oxidation of Prx3[1]. Auranofin inhibits proliferation and survival of SKOV3 cells in a dose- and time-dependent manner. Auranofin treatment activates the pro-apoptotic caspase-3, increases protein levels of apoptosis-inducing proteins Bax and Bim and reduces the expression of the anti-apoptotic mediator Bcl-2 in SKOV3 cells[2]. Auranofin is a lipophilic gold compound with anti-inflammatory and immunosuppressive properties. Auranofin inhibits the cell growth and induction of mitochondrial apoptosis in PC3 human prostate cancer cells. Treatment with auranofin significantly inhibits cell viability with an IC50 value of 2.5 μM after 24 h[3].
In Vivo	Prophylactic treatment of adjuvant-induced arthritis rats with auranofin results in a slight reduction in paw edema, a complete normalization of the depressed IL-2 production, and a reduction of the elevated IL-1 production, but has no effect on the depressed IL-3 production[4].

Solvent&Solubility

In Vitro:

DMSO : 125 mg/mL (**183.69 mM**; Need ultrasonic and warming)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.4695 mL	7.3475 mL	14.6951 mL
	5 mM	0.2939 mL	1.4695 mL	2.9390 mL
	10 mM	0.1470 mL	0.7348 mL	1.4695 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: ≥ 2.08 mg/mL (3.06 mM); Clear solution

此方案可获得 ≥ 2.08 mg/mL (3.06 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 20.8 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: 2.08 mg/mL (3.06 mM); Suspended solution; Need ultrasonic and warming 此方案可获得 2.08 mg/mL (3.06 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。 以 1 mL 工作液为例，取 100 μL 20.8 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: ≥ 2.08 mg/mL (3.06 mM); Clear solution 此方案可获得 ≥ 2.08 mg/mL (3.06 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 20.8 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Cox AG, et al. The thioredoxin reductase inhibitor auranofin triggers apoptosis through a Bax/Bak-dependent process that involves peroxiredoxin 3 oxidation. Biochem Pharmacol. 2008 Oct 30;76(9):1097-109. [2]. Park SH, et al. Auranofin displays anticancer activity against ovarian cancer cells through FOXO3 activation independent of p53. Int J Oncol. 2014 Oct;45(4):1691-8. [3]. Park N, et al. Auranofin promotes mitochondrial apoptosis by inducing annexin A5 expression and translocation in human prostate cancer cells. J Toxicol Environ Health A. 2014;77(22-24):1467-76. [4]. Lee JC, et al. Effect of auranofin treatment on aberrant splenic interleukin production in adjuvant arthritic rats. J Immunol. 1987 Nov 15;139(10):3268-74.

实验参考：

Cell Assay	Auranofin is dissolved in DMSO. Cells are treated with auranofin (0, 50, 100, 200 and 400 nM) for 72 h for the dose-dependent response assay and 100 nM of auranofin is added into the wells for 0, 24, 72 and 120 h for the time-dependent response assay. Control cultures are treated with DMSO. Cell viability is measured by the MTT assay[2].
Animal Administration	Rats: Prophylactically, auranofin (6.7 to 15 mg of gold/kg), indomethacin (2 mg/kg) or tragacanth vehicle control were administered orally at daily intervals beginning on the day of adjuvant injection. On days 16 to 17 peritoneal exudate cells or spleen cells from normal or adjuvant-injected rats were isolated and tested[4].
References	[1]. Cox AG, et al. The thioredoxin reductase inhibitor auranofin triggers apoptosis through a Bax/Bak-dependent process that involves peroxiredoxin 3 oxidation. Biochem Pharmacol. 2008 Oct 30;76(9):1097-109. [2]. Park SH, et al. Auranofin displays anticancer activity against ovarian cancer cells through FOXO3 activation independent of p53. Int J Oncol. 2014 Oct;45(4):1691-8. [3]. Park N, et al. Auranofin promotes mitochondrial apoptosis by inducing annexin A5 expression and translocation in human prostate cancer cells. J Toxicol Environ Health A. 2014;77(22-24):1467-76. [4]. Lee JC, et al. Effect of auranofin treatment on aberrant splenic interleukin production in adjuvant arthritic rats. J Immunol. 1987 Nov 15;139(10):3268-74.