产品名称：RAD51 Inhibitor B02
产品别名：RAD51 Inhibitor B02

生物活性：

Description	RAD51 Inhibitor B02 (B02) is an inhibitor of human RAD51 with an IC50 of 27.4 μM.
IC_{50} & Target	IC50: 27.4 μM (hRAD51)[1]
In Vitro	RAD51 Inhibitor B02 specifically inhibits human RAD51 (IC50=27.4 μM), but not its E. coli homologue RecA (IC50>250 μM)[1]. The combination of B02 with cisplatin has the strongest killing effect on the human breast cancer cells MDA-MB-231[2].
In Vivo	B02 significantly enhances the therapeutic effect of cisplatin on tumor cells in vivo. B02 is tolerated by mice at doses up to 50 mg/kg without obvious body weight loss. No inhibition of tumor growth is observed on mice solely treated by B02. Mice treated with 4 mg/kg cisplatin, however, shows a 33% inhibition of tumor growth. Finally, mice treated with 50 mg/kg B02 and 4 mg/kg cisplatin shows a 66% inhibition of tumor growth[2].

Solvent&Solubility

In Vitro:

DMSO： ≥ 37 mg/mL (109.02 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9465 mL	14.7323 mL	29.4646 mL
	5 mM	0.5893 mL	2.9465 mL	5.8929 mL
	10 mM	0.2946 mL	1.4732 mL	2.9465 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 mg/mL (5.89 mM); Clear solution

此方案可获得 ≥ 2 mg/mL (5.89 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 20.0 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 mg/mL (5.89 mM); Clear solution

此方案可获得 ≥ 2 mg/mL (5.89 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 20.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。

References	[1]. Huang F, et al. Identification of specific inhibitors of human RAD51 recombinase using high-throughput screening. ACS Chem Biol. 2011 Jun 17;6(6):628-35. [2]. Huang F, et al. A small molecule inhibitor of human RAD51 potentiates breast cancer cell killing by therapeutic agents in mouse xenografts. PLoS One. 2014 Jun 27;9(6):e100993.

实验参考：

Cell Assay	The cells are exposed for 1 h, then the cells are ished by PBS three times and refreshed by the media containing B02 (5 μM). After 7-10 days, cells are fixed and stained with staining solution (0.05% crystal violet, 50% methanol in PBS); finally cell colonies are counted[2].
Animal Administration	Mice: Cisplatin and B02 are dissolved in NS and cremophor/DMSO/NS (1:1:3) vehicle, respectively, immediately before injection. In a combination treatment group, the mice are injected with B02 (50 mg/kg or indicated otherwise) and cisplatin (4 mg/kg or indicated otherwise). In B02 group, mice are injected with B02 and NS; in cisplatin group, mice are injected with cisplatin and B02 vehicle. Cisplatin (or NS) is administrated 3 h after B02 (or its vehicle) injection. All the treatments are executed through I.P. injections on day 11, 13, 15 and 17 after tumor cells inoculations[2].
References	[1]. Huang F, et al. Identification of specific inhibitors of human RAD51 recombinase using high-throughput screening. ACS Chem Biol. 2011 Jun 17;6(6):628-35. [2]. Huang F, et al. A small molecule inhibitor of human RAD51 potentiates breast cancer cell killing by therapeutic agents in mouse xenografts. PLoS One. 2014 Jun 27;9(6):e100993.