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
邮箱：shyysw@sina.com

产品名称：JW-55
产品别名：JW 55

生物活性：

Description	JW 55 is a potent and selective β-catenin signaling pathway inhibitor, which functions via inhibition of the PARP domain of tankyrase 1 and tankyrase 2 (TNKS1/2). JW 55 decreases auto-PARsylation of TNKS1/2 in vitro with IC_{50}s of 1.9 μM and 830 nM respectively.

IC_{50} & Target	TNKS2	TNKS1
	0.83 μM (IC_{50})	1.9 μM (IC_{50})

In Vitro	JW 55 (JW55) is a potent and selective inhibitor of the canonical Wnt pathway. Wnt3a-induced HEK293 cells containing a transiently transfected ST-Luc (SuperTop-luciferase) reporter show inhibition by JW55 with an IC50 value of 470 nM. JW55 is effective in the range of 1 to 5 μM in SW480 cells and 0.01 to 5 μM in HCT-15 cells. JW55 is effective in the range of 1 to 5 μM in SW480 cells and 0.01 to 5 μM in HCT-15 cells[1].
In Vivo	JW 55 (100 mg/kg, orally) reduces tumor development in conditional Apc knockout mice. JW55 reduces XWnt8-induced axis duplication inXenopus embryos and Tamoxifen-induced polyposis formation in conditional APC mutant mice[1].

Solvent&Solubility

In Vitro:

DMSO： ≥ 50 mg/mL (115.08 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	**1 mg**	**5 mg**	**10 mg**
	1 mM	2.3016 mL	11.5080 mL	23.0160 mL
	5 mM	0.4603 mL	2.3016 mL	4.6032 mL
	10 mM	0.2302 mL	1.1508 mL	2.3016 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 (5.75 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (5.75 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% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.75 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.75 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 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: ≥ 2.5 mg/mL (5.75 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.75 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]. Waaler J, et al. A novel tankyrase inhibitor decreases canonical Wnt signaling in colon carcinoma cells and reduces tumor growth in conditional APC mutant mice. Cancer Res. 2012 Jun 1;72(11):2822-32.

实验参考：

Cell Assay	A total of 1,000 SW480 or RKO cells are seeded in 96-well plates. The day after, the cell culture medium is exchanged to solutions that contained 0.1% DMSO or 10 μM JW55 for RKO cells and 0.1% DMSO or 10, 5, or 1 μM JW55 for SW480 cells. All samples consist of a minimum of 6 replicates. The plate is incubated in an IncuCyte inside a cell culture incubator. Images are captured every second hour to monitor proliferation[1].
Animal Administration	Mice[1] Seven 12-week old female *Apc*$^{CKO/CKO}$/*Lgr5-CreERT2* mice are injected intraperitonally with 25 mg/kg of Tamoxifen diluted in an ethanol and corn oil (ratio 1:4). The mice are randomized into 2 groups and treated with either JW55 (100 mg/kg) or vehicle (DMSO). Daily per oral applications started the day after and continued for 3 weeks. The mouse body weight is measured twice a week. The mice are sacrificed and the intestines are dissected, washed in PBS, and fixed in formaldehyde [10% solution (v/v) in PBS]. The small intestines are stained using 1% methylene blue prepared in 10% paraformalaldehyde (PFA)/PBS solution. Small ileum Swiss-rolls are embedded in paraffin sectioned and stained with hematoxylin and eosin. Fixed colons are embedded in paraffin, sectioned and stained with an anti-β-catenin antibody. The number and size of the intestinal lesions are quantified by the Ellipse program.
References	[1]. Waaler J, et al. A novel tankyrase inhibitor decreases canonical Wnt signaling in colon carcinoma cells and reduces tumor growth in conditional APC mutant mice. Cancer Res. 2012 Jun 1;72(11):2822-32.