产品名称：盐霉素钠盐
产品别名：盐霉素钠；Salinomycin sodium salt

生物活性：

Description	Salinomycin sodium salt (Salinomycin sodium), an antibiotic potassium ionophore, is a potent inhibitor of Wnt/β-catenin signaling. Salinomycin sodium salt (Salinomycin sodium) acts on the Wnt/Fzd/LRP complex, blocks Wnt-induced LRP6 phosphorylation, and causes degradation of the LRP6 protein. Salinomycin sodium salt (Salinomycin sodium) shows selective activity against human cancer stem cells[1][2][3].
IC_{50} & Target	Wnt/β-catenin[1]
In Vitro	Salinomycin (0.1-8 μM) inhibits the growth of HUVECs in a dose-dependent manner, accounting for 32.1 and 59.2% inhibition at 4 and 8 μM, respectively. HUVECs exposed to 2, 4 and 8 μM of Salinomycin for 48 h show a dose-dependent reduction in cell number and a change in cell morphology. Salinomycin (4 μM) treatment effectively inhibits HUVEC migration and invasion, and significantly disrupt the capillary-like tube formation of HUVECs. Salinomycin significantly suppresses the expression levels of phosphorylated (p)-FAK in a time- and dose-dependent manner in HUVECs. Salinomycin inhibits HUVEC angiogenesis by disturbing the VEGF-VEGFR2-AKT signaling axis[1]. Combination of RSVL and Salinomycin synergistically inhibits the proliferation of TNBC (MDA-MB-231) cells. RSVL and Salinomycin effectively reduce wound healing, colony and tumorosphere forming capability in TNBC cells. Synergistic combination of RSVL and Salinomycin induces apoptosis in both culture conditions by significant upregulation of Bax with decreased Bcl-2 expression as comparison to untreated and alone drug treatments[2]. Salinomycin (0, 2, 4, 8 and 16 μM) significantly inhibits the proliferation of A2780 and SK-OV-3 cell lines in a dose- and time-dependent manner, (IC50 24h: 13.8 μM, IC50 48h: 6.888 μM and IC50 72h: 4.382 μM for A2780 cell lines), (IC50 24h: 12.7 μM, IC50 48h: 9.869 μM and IC50 72h: 5.022 μM for SK-OV-3 cell lines). Salinomycin blocks the Wnt/β-catenin pathway in EOC cells[3]. Salinomycin (2 μM) reduces cancer cell proliferation, inhibits STAT3 phosphorylation and P38 and β-catenin expressions, and suppresses epithelial-mesenchymal transition in colorectal cancer cells. Salinomycin (1-5 μM) inhibits cancer cell proliferation and STAT3 signaling in colorectal cancer cells. Furthermore, Salinomycin activates Akt (Ser 473) and down-regulates Hsp27 (Ser 82) phosphorylation in HT-29 and SW480. Salinomycin down-regulates hTERT and reduces telomerase activity when combined with telomerase inhibitor[4].
In Vivo	Salinomycin (5 and 10 mg/kg) significantly supresses the average tumor volume and tumor weight. Salinomycin hinders the U251 human glioma cell growth in vivo via inhibition of angiogenesis with involvement of AKT and FAK dephosphorylation[1]. Salinomycin (0.5 mg/kg b.wt.) enhances the mean survival time of the tumor bearing Swiss albino mice[2].

In Vitro:

DMSO : 100 mg/mL (**129.37 mM;** Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.2937 mL	6.4685 mL	12.9369 mL
5 mM	0.2587 mL	1.2937 mL	2.5874 mL
10 mM	0.1294 mL	0.6468 mL	1.2937 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。

Solvent&Solubility	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 (3.23 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (3.23 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 (3.23 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (3.23 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]. Lu D, et al. Salinomycin inhibits Wnt signaling and selectively induces apoptosis in chronic lymphocytic leukemia cells. Proc Natl Acad Sci U S A. 2011 Aug 9;108(32):13253-7. [2]. Zhou J, et al. Salinomycin induces apoptosis in cisplatin-resistant colorectal cancer cells by accumulation of reactiveoxygen species. Toxicol Lett. 2013 Oct 24;222(2):139-45. [3]. Klose J, et al. Salinomycin: Anti-tumor activity in a pre-clinical colorectal cancer model. PLoS One. 2019 Feb 14;14(2):e0211916. [4]. Wang F, et al. Salinomycin Inhibits Proliferation and Induces Apoptosis of Human Hepatocellular Carcinoma Cells In Vitro and In Vivo. PLoS One. 2012; 7(12): e50638. [5]. Qu H, et al. Effect of salinomycin on metastasis and invasion of bladder cancer cell line T24. Asian Pac J Trop Med. 2015 Jul;8(7):578-82.

实验参考：

Cell Assay	The effect of Salinomycin on HUVEC growth is determined by MTT assay. Briefly, HUVECs (6,000 cells/well) are seeded in 96-well culture plates for 24 h and incubated with different concentrations of Salinomycin. In the preliminary experiments, Salinomycin treatment for 12, 24, 48 and 72 h shows time-dependent effects on cell growth inhibition. However, treatment for 48 h is the optimal time and is selected for further mechanism evaluation. After Salinomycin treatment for 48 h, 20 μL/well of MTT solution (5 mg/mL) is added and incubated for 5 h. The medium is aspirated and replaced with 200 μL/well of DMSO to dissolve the formazan Salinomycint formed. The color intensity of the formazan solution is measured at 570 nm by a microplate spectrophotometer. The cell viability is expressed as % of the control (as 100%).[1]
	Human glioma U251 cells (1×10^7) suspended in 100 μL PBS are injected into the right lower hind flank of each 6-week-old male nude mouse. The mice are then randomly assigned into three groups of 10 mice in each group. After one week, Salinomycin (5 and 10 mg/kg) is administered into the

Animal Administration	caudal vein every other day for 16 days. Control mice receive an equal volume of vehicle (Salinomycinine) only. Body weight and tumor volume are monitored every two days. At the end of the experiments, tumors are excised, photographed, and weighed. Tumors from each group are used for western blotting and immunohistochemical (IHC) assay. [1]
References	[1]. Lu D, et al. Salinomycin inhibits Wnt signaling and selectively induces apoptosis in chronic lymphocytic leukemia cells. Proc Natl Acad Sci U S A. 2011 Aug 9;108(32):13253-7. [2]. Zhou J, et al. Salinomycin induces apoptosis in cisplatin-resistant colorectal cancer cells by accumulation of reactiveoxygen species. Toxicol Lett. 2013 Oct 24;222(2):139-45. [3]. Klose J, et al. Salinomycin: Anti-tumor activity in a pre-clinical colorectal cancer model. PLoS One. 2019 Feb 14;14(2):e0211916. [4]. Wang F, et al. Salinomycin Inhibits Proliferation and Induces Apoptosis of Human Hepatocellular Carcinoma Cells In Vitro and In Vivo. PLoS One. 2012; 7(12): e50638. [5]. Qu H, et al. Effect of salinomycin on metastasis and invasion of bladder cancer cell line T24. Asian Pac J Trop Med. 2015 Jul;8(7):578-82.