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产品名称：4SC-202
产品别名：Domatinostat tosylate

生物活性：

Description	Domatinostat tosylate (4SC-202) is a selective class I HDAC inhibitor with IC50 of 1.20 μM, 1.12 μM, and 0.57 μM for HDAC1, HDAC2, and HDAC3, respectively. It also displays inhibitory activity against Lysine specific demethylase 1 (LSD1).

IC_{50} & Target						
HDAC-3	HDAC-2	HDAC-1	HDAC-11	HDAC-5	HDAC-10
0.57 μM (IC_{50})	1.12 μM (IC_{50})	1.2 μM (IC_{50})	9.7 μM (IC_{50})	11.3 μM (IC_{50})	21 μM (IC_{50})
HDAC-9					
50 μM (IC_{50})					

In Vitro	Domatinostat tosylate significantly reduces proliferation of all epithelial and mesenchymal UC cell lines (IC50 0.15-0.51 μM), inhibits clonogenic growth and induces caspase activity[1]. Domatinostat tosylate provokes apoptosis activation in CRC cells, while caspase inhibitors (z-VAD-CHO and z-DVED-CHO) significantly alleviate Domatinostat tosylate-exerted cytotoxicity in CRC cells. Meanwhile, Domatinostat tosylate induces dramatic G2-M arrest in CRC cells. Further studies show that AKT activation might be an important resistance factor of Domatinostat tosylate. Domatinostat tosylate-induced cytotoxicity is dramatically potentiated with serum starvation, AKT inhibition (by perifosine or MK-2206), or AKT1-shRNA knockdown in CRC cells. On the other hand, exogenous expression of constitutively active AKT1 (CA-AKT1) decreases the sensitivity by Domatinostat tosylate in HT-29 cells. Notably, Domatinostat tosylate, at a low concentration, enhances oxaliplatin-induced in vitro anti-CRC activity[2]. Domatinostat tosylate treatment induces potent cytotoxic and proliferation-inhibitory activities against established HCC cell lines (HepG2, HepB3, SMMC-7721) and patient-derived primary HCC cells. Domatinostat tosylate induces apoptosis signal-regulating kinase 1 (ASK1) activation, causing it translocation to mitochondria and physical association with Cyp-D[3].
In Vivo	Oral gavage of Domatinostat tosylate inhibits HT-29 xenograft growth in nude mice, and when combined with oxaliplatin, its activity is further strengthened[2].

In Vitro:

DMSO : ≥ 51 mg/mL (82.30 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	**1 mg**	**5 mg**	**10 mg**
	1 mM	1.6137 mL	8.0683 mL	16.1366 mL
	5 mM	0.3227 mL	1.6137 mL	3.2273 mL
	10 mM	0.1614 mL	0.8068 mL	1.6137 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

Solvent&Solubility	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 (4.03 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.03 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 (4.03 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.03 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。
References	[1]. Pinkerneil M, et al. Evaluation of the Therapeutic Potential of the Novel Isotype Specific HDAC Inhibitor 4SC-202 in Urothelial Carcinoma Cell Lines. Target Oncol. 2016 Dec;11(6):783-798. [2]. S.W.Henning, et al. Preclinical characterization of 4SC-202, a noval isotype specific HDAC inhibitor. [3]. Zhijun H, et al. Pre-clinical characterization of 4SC-202, a novel class I HDAC inhibitor, against colorectal cancer cells. Tumour Biol. 2016 Aug;37(8):10257-67. [4]. Fu M, et al. 4SC-202 activates ASK1-dependent mitochondrial apoptosis pathway to inhibit hepatocellular carcinoma cells. Biochem Biophys Res Commun. 2016 Mar 4;471(2):267-73