产品名称：SNS-314 Mesylate
产品别名：SNS-314

生物活性：

Description

SNS-314 is a potent and selective aurora kinase inhibitor with IC_{50}s of 9, 31, and 6 nM for aurora A, B and C, respectively.

IC_{50} & Target

Aurora A	Aurora B	Aurora C
9 nM (IC_{50})	31 nM (IC_{50})	6 nM (IC_{50})

In Vitro

SNS-314 blocks proliferation in a broad panel of tumor cell lines (HCT116, A2780, PC-3, HeLa, MDA-MB-231, H-1299, and HT29) with IC50 values ranging from 1.8 nM in A2780 ovarian cancer cells to 24 nM in HT29 colon cancer cells[2].

In Vivo

In the HCT116 human colon cancer xenograft model, administration of 50 and 100 mg/kg SNS-314 leads to dose-dependent inhibition of histone H3 phosphorylation for at least 10 h. SNS-314 shows significant tumor growth inhibition in a dose dependent manner under a variety of dosing schedules including weekly, bi-weekly, and 5 days on/9 days off[2].

Solvent&Solubility

In Vitro:

DMSO : 50 mg/mL (94.87 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.8974 mL	9.4869 mL	18.9739 mL
	5 mM	0.3795 mL	1.8974 mL	3.7948 mL
	10 mM	0.1897 mL	0.9487 mL	1.8974 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 (4.74 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (4.74 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 (4.74 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (4.74 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 (4.74 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (4.74 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]. Oslob JD, et al. Discovery of a potent and selective aurora kinase inhibitor. Bioorg Med Chem Lett. 2008 Sep 1;18(17):4880-4. [2]. Arbitrario JP, et al. SNS-314, a pan-Aurora kinase inhibitor, shows potent anti-tumor activity and dosing flexibility in vivo. Cancer Chemother Pharmacol. 2010 Mar;65(4):707-17.

实验参考：

Cell Assay	HCT116 cells are treated with various concentrations of SNS-314 for 96 hours. cells are incubated with BrdU for 2 h at 37°C. Cell proliferation activity is evaluated by chemiluminescence detection of BrdU incorporated in DNA[2].
Animal Administration	Mice: Tumor mice are treated with vehicle or SNS-314. Animals are weighed, monitored for signs or symptoms of toxic effects, and measured for tumor volumes twice weekly until an end point is met[2].
Kinase Assay	A homogeneous time-resolved fluorescence (HTRF)-based biochemical IC50 assay is used to test for the kinase activity of the three isoforms of Aurora (A, B, and C) in the presence of SNS-314. A biotin-conjugated histone H3 peptide is used as substrate. Aurora-A kinase (7.5 nM) is assayed in 10 mM Tris–HCl pH 7.2, 10 mM MgCl2, 0.1% BSA, 0.05% Tween 20, 1 mM DTT, 120 nM biotinylated peptide ARTKQTARKSTGGKAPRKQLA-GGK-biotin, 6 μM ATP (2×the Km for the enzyme) for 1 h at 25°C. The reaction is stopped with 200 mM EDTA. Aurora-B and Aurora-C are assayed at 5 nM enzyme concentration, 120 nM biotinylated peptide, and 300 IM ATP (29 the Km for the enzymes) for 1 h at 25°C[2].
References	[1]. Oslob JD, et al. Discovery of a potent and selective aurora kinase inhibitor. Bioorg Med Chem Lett. 2008 Sep 1;18(17):4880-4. [2]. Arbitrario JP, et al. SNS-314, a pan-Aurora kinase inhibitor, shows potent anti-tumor activity and dosing flexibility in vivo. Cancer Chemother Pharmacol. 2010 Mar;65(4):707-17.