产品名称：SBE13 (Hydrochloride)
产品别名：SBE13 Hydrochloride

生物活性：

Description	SBE13 Hydrochloride is a potent and selective Plk1 inhibitor, with an IC_{50} of 200 pM; SBE13 Hydrochloride poorly inhibits Plk2 (IC_{50}>66 μM) or Plk3 (IC_{50}=875 nM).
IC_{50} & Target	PLK1 / PLK3
	200 pM (IC_{50}) / 875 nM (IC_{50})
In Vitro	SBE13 significantly reduce cell proliferation and induce apoptosis in HeLa cells, with an EC_{50} of 18 μM[1]. SBE13 (1-100 μM) shows no effect on Caspase 3/7 activity in NIH-3T3 cells. SBE13 (66 and 100 μM) does not change morphology after treatment of primary cells. SBE13 (10 and 100 μM) reduces pRb staining in primary cells, and this indicates a G0/G1 arrest[2]. SBE13 (66 and 100 μM) increases levels of cyclin B1, phospho histone H3, Wee1, Emi1 and securin, and results in cleavage of Cdc27 in HeLa cells. SBE13 (10 and 100 μM) also induces apoptosis of HeLa cells[3].

Solvent&Solubility

In Vitro:

DMSO : ≥ 100 mg/mL (208.59 mM)

H_2O : 5 mg/mL (10.43 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0859 mL	10.4297 mL	20.8594 mL
	5 mM	0.4172 mL	2.0859 mL	4.1719 mL
	10 mM	0.2086 mL	1.0430 mL	2.0859 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 (5.21 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (5.21 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 (5.21 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (5.21 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 (5.21 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (5.21 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]. Keppner S, et al. Identification and validation of a potent type II inhibitor of inactive polo-like kinase 1. ChemMedChem. 2009 Nov;4(11):1806-9. [2]. Keppner S, et al. Fate of primary cells at the G?/S boundary after polo-like kinase 1 inhibition by SBE13. Cell Cycle. 2011 Feb 15;10(4):708-20. Epub 2011 Feb 15. [3]. Keppner S, et al. Biological impact of freezing Plk1 in its inactive conformation in cancer cells. Cell Cycle. 2010 Feb 15;9(4):761-73. Epub 2010 Feb 16.

实验参考：

Kinase Assay	To assay Plk1 kinase activity, cells are lysed after 13 h release in the presence of SBE13 after double thymidine block and kinase is immunoprecipitated from lysates using antibodies. In brief, for each immunoprecipitation 800 μg of total protein are incubated with Plk1 antibody cocktail (1.5 μg) for 2 h at 4°C on a rotator. Immunoprecipitated protein is collected using Protein A/G Agarose beads. Plk1 immunoprecipitates are incubated with casein (1 μg) and with [γ-^{32}P]ATP (1 μCi) for 30 min at 37°C in kinase buffer. Products from the kinase assays are fractionated on 10 % bis-tris-polyacrylamide gels, and phosphorylated substrate is visualized by autoradiography after an exposure of 12-36 h. Equal amounts of immunoprecipitates are subjected to Western blot analysis to confirm equal loading of Plk1 protein in kinase reactions[1]
References	[1]. Keppner S, et al. Identification and validation of a potent type II inhibitor of inactive polo-like kinase 1. ChemMedChem. 2009 Nov;4(11):1806-9. [2]. Keppner S, et al. Fate of primary cells at the G?/S boundary after polo-like kinase 1 inhibition by SBE13. Cell Cycle. 2011 Feb 15;10(4):708-20. Epub 2011 Feb 15. [3]. Keppner S, et al. Biological impact of freezing Plk1 in its inactive conformation in cancer cells. Cell Cycle. 2010 Feb 15;9(4):761-73. Epub 2010 Feb 16.