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：Adarotene
产品别名：ST1926

生物活性：

Description	Adarotene is an effective apoptosis inducer, which surprisingly produces DNA damage and exhibites a potent antiproliferative activity on a large panel of human tumor cells.
In Vitro	Adarotene causes a dose-dependent growth inhibition in a large panel of human tumor cell lines with IC50 ranging from 0.1 to 0.3 μM. Adarotene causes cell accumulation in G1/S or S phase of cell cycle depending on tumor cells IGROV-1 and DU145[1]. Adarotene is apoptotic and cytotoxic on a large spectrum of cancerous and leukemic cells, including freshly isolated AML blasts in primary culture. The molecular target of ST1926 apoptotic activity in myeloid leukemia cells is similar to the ligand-binding domain of RARγ. Adarotene treatment of cells results in rapid accumulation of intracellular calcium[2].
In Vivo	Adarotene (15, 20 mg/kg, p.o.) causes a significant tumor growth inhibition in a human ovarian carcinoma, A2780/DX, and in a human melanoma, MeWo, growing in nude mice[1]. Adarotene (30, 40 mg/kg, p.o.) results in a significant and dose-dependent increase in the life span of NB4-bearing SCID mice without overt toxicity[2].
Solvent&Solubility	***In Vitro:*** **DMSO : 25 mg/mL (66.76 mM;** Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6704 mL	13.3522 mL	26.7044 mL
	5 mM	0.5341 mL	2.6704 mL	5.3409 mL
	10 mM	0.2670 mL	1.3352 mL	2.6704 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 (6.68 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (6.68 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 (6.68 mM); Clear solution

	此方案可获得 ≥ 2.5 mg/mL (6.68 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]. Cincinelli R, et al. A novel atypical retinoid endowed with proapoptotic and antitumor activity. J Med Chem. 2003 Mar 13;46(6):909-12. [2]. Garattini E, et al. ST1926, a novel and orally active retinoid-related molecule inducing apoptosis in myeloid leukemia cells: modulation of intracellular calcium homeostasis. Blood. 2004 Jan 1;103(1):194-207.

实验参考：

Cell Assay	Briefly, cells (1×10^7/mL) are loaded with 1 μM FURA-2 at 37°C in the dark for 30 minutes, washed twice, resuspended in phosphate-buffered saline (PBS) containing 1.26 mM $CaCl_2$ at 10^6 cells/mL and then used for the experiments. Dual excitation, alternating at 340 nm and 380 nm, is provided by a spectrophotofluorometer equipped with 2 excitation monochromators, and emission is fixed at 480 nm. The temperature is set at 37°C±1°C. In some experiments, to eliminate extracellular calcium, cells preloaded with FURA-2 are resuspended in PBS without Ca^{2+}, and 0.5 mM EGTA (ethylene glycol tetraacetic acid) is added to each sample prior to addition of the appropriate stimulus. [2]
Animal Administration	NB4 cells (3×10^6) are intraperitoneally inoculated in SCID mice (8 mice/group). ST1926 is dissolved in cremophor/ethanol 1:1 solution, and diluted 1:10 in PBS at the concentration of 50 mg/kg; the doses of 30 mg/kg and 40 mg/kg are then prepared by appropriate dilutions in the same vehicle. ATRA is dissolved in the dark in Cremophor EL and kept magnetically stirred; the solution is then diluted 1:10 in PBS at the final concentration of 40 mg/kg. Both compounds are administered intraperitoneally and orally twice per day for 3 weeks starting from the day after cell inoculation, in a volume of 10 mL/kg. During treatments body weight and lethality are registered. [2]
References	[1]. Cincinelli R, et al. A novel atypical retinoid endowed with proapoptotic and antitumor activity. J Med Chem. 2003 Mar 13;46(6):909-12. [2]. Garattini E, et al. ST1926, a novel and orally active retinoid-related molecule inducing apoptosis in myeloid leukemia cells: modulation of intracellular calcium homeostasis. Blood. 2004 Jan 1;103(1):194-207.