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产品名称：CREB inhibitor (666-15)
产品别名：666-15

生物活性：

Description	666-15 is a potent and selective CREB inhibitor with an IC50 of 81 nM.
IC_{50} & Target	IC50: 81 nM (CREB)[1]
In Vitro	666-15 potently inhibits cancer cell growth. In MDA-MB-231 and MDA-MB-468 cells, the GI_{50} for 666-15 is 73 and 46 nM, respectively. In A549 and MCF-7 cells, it exhibits robust activity as well with GI_{50} of 0.47 and 0.31 μM. 666-15 is also found to be a rather weak inhibitor of CREB-CBP interaction with IC_{50} of 18.27 μM. 666-15 inhibits CREB's transcription activity in living cells independent of direct CREB or CBP binding interaction. 666-15 is very potent in inhibiting CREB's transcription activity. 666-15 also inhibits endogenous CREB target gene expression, the transcript level of nuclear receptor related 1 protein (Nurr1/NR4A2)[1].
In Vivo	Preliminary toxicity studies show that intraperitoneal (ip) injection of 10 mg/kg of 666-15 is well tolerated in mice. The tumor growth in the mice treated with 666-15 is efficaciously inhibited with complete tumor stasis. During the same period, the tumor volume in the vehicle-treated group is more than tripled. The body weights of 666-15-treated animals and vehicle-treated ones are indistinguishable from each other during the entire treatment period[1].

Solvent&Solubility

In Vitro:

DMSO : ≥ 30 mg/mL (48.35 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.6116 mL	8.0578 mL	16.1155 mL
5 mM	0.3223 mL	1.6116 mL	3.2231 mL
10 mM	0.1612 mL	0.8058 mL	1.6116 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 (4.03 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% corn oil 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，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]. Xie F, et al. Identification of a Potent Inhibitor of CREB-Mediated Gene Transcription with Efficacious in Vivo Anticancer Activity. J Med Chem. 2015 Jun 25;58(12):5075-87.

实验参考：

Cell Assay	Cells are plated into 96-well plates and the cells are allowed to attach to the bottom of the plates overnight. Then the cells are treated with different concentrations of different drugs (666-15) for 72 h. The media are removed, and MTT reagent in complete tissue culture media is added to each well and incubated at 37 °C for 3 h. The incubation media are removed and 100 μL of DMSO is added to each well. The absorbance of the formed purple formazan solution is read at 570 nm using a plate reader[1].
Animal Administration	Mice: 666-15 is dissolved in 1% N-methylpyrrolidone (NMP), 5% Tween-80 in water. Each 6- to 8-week old BALB/c nude mouse is inoculated subcutaneously at the right flank with MDA-MB-468 cells. Mice are treated with either vehicle or 666-15 at 10 mg/kg. The mice are treated once a day for 5 consecutive days a week, and the treatment lasted for 5 weeks[1].
References	[1]. Xie F, et al. Identification of a Potent Inhibitor of CREB-Mediated Gene Transcription with Efficacious in Vivo Anticancer Activity. J Med Chem. 2015 Jun 25;58(12):5075-87.