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：N-(1H-Indol-5-yl)benzamide
产品别名：OAC2

生物活性：

Description	OAC2 is an Oct4-activating compound which activates expression through the Oct4 gene promoter.
In Vitro	Octamer-binding transcription factor 4 (Oct4) is a master regulator of the induction and maintenance of cellular pluripotency, and has crucial roles in early stages of differentiation. It is the only factor that cannot be substituted by other members of the same protein family to induce pluripotency[1]. Oct4 has been shown to be an essential regulator of embryonic stem cell (ESC) pluripotency and key to the reprogramming process. OAC2 is a structural analog of OAC1. OAC2 activates both Oct4 and Nanog reporters to a similar extent as OAC1. OAC1 and its two structural analogs OAC2 and OAC3 enhances reprogramming efficiency fourfold, up to as high as 2.75%, and accelerates the appearance of iPSC colonies 3 to 4 d when used in combination with the four reprogramming factors, Oct4, Sox2, Klf4, and c-Myc[2].
Solvent&Solubility	***In Vitro:*** **DMSO : ≥ 100 mg/mL (423.24 mM)** **Ethanol : 25 mg/mL (105.81 mM;** Need ultrasonic) **H_2O : < 0.1 mg/mL** (insoluble) * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	4.2324 mL	21.1622 mL	42.3245 mL
	5 mM	0.8465 mL	4.2324 mL	8.4649 mL
	10 mM	0.4232 mL	2.1162 mL	4.2324 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 (10.58 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (10.58 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 (10.58 mM); Suspended solution; Need ultrasonic 此方案可获得 2.5 mg/mL (10.58 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。 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 (10.58 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (10.58 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。 4.请依序添加每种溶剂： 10% EtOH→40% PEG300 →5% Tween-80 → 45% saline Solubility: ≥ 2.5 mg/mL (10.58 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (10.58 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 EtOH 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。 5.请依序添加每种溶剂： 10% EtOH→ 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (10.58 mM); Suspended solution; Need ultrasonic 此方案可获得 2.5 mg/mL (10.58 mM)的均匀悬浊液，悬浊液可用于口服和腹腔注射。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 EtOH 储备液加到 900 μL 20% 的 SBE-β-CD 生理盐水水溶液中，混合均匀。 6.请依序添加每种溶剂： 10% EtOH →90% corn oil Solubility: ≥ 2.5 mg/mL (10.58 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (10.58 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 EtOH 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Okuyama T, et al. Structural and mechanistic insights into nuclear transport and delivery of the critical pluripotency factor Oct4 to DNA. J Biomol Struct Dyn. 2017 Feb 6:1-50 [2]. Li W, et al. Identification of Oct4-activating compounds that enhance reprogramming efficiency. Proc Natl Acad Sci U S A. 2012 Dec 18;109(51):20853-8.
实验参考：	
Cell Assay	The Oct4-luc or Nanog-luc cells are treated with compound OAC1 or its structural analogs OAC2, OAC3 at 1 μM concentration or at indicated concentrations. Other compounds used include 2 μM BIO, 2 μM BIX, 2 μM 5'-azacytidine, 25 μg/mL Vitamin C, 10 nM Am580, 5 μM tranylcypromine, and 0.5 mM valporic acid. Luciferase reporter assays are performed 24 h after compound treatment or at indicated time points. For Topflash reporter assays, 0.2 μg β-catenin–responsive Topflash reporter gene plasmid is introduced into CV1 cells using trasfection. Compounds are added 6 h after transfection. Luciferase activity is measured 48 h after compound treatment using the Glo Luciferase Assay System[2].

References	[1]. Okuyama T, et al. Structural and mechanistic insights into nuclear transport and delivery of the critical pluripotency factor Oct4 to DNA. J Biomol Struct Dyn. 2017 Feb 6:1-50 [2]. Li W, et al. Identification of Oct4-activating compounds that enhance reprogramming efficiency. Proc Natl Acad Sci U S A. 2012 Dec 18;109(51):20853-8.