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产品名称：IDE1
产品别名：IDE1

生物活性：

Description	IDE1 is an inducer of definitive endoderm 1.
In Vitro	IDE1 enhances the definitive endoderm (DE) differentiation of human-induced pluripotent stem cells (hiPSCs) with Activin A/Wnt3a being significantly more potent in both 2D and 3D cultures compared to IDE1. IDE1 could efficiently induces DE differentiation through various protocols in vitro. Treatment of the hiPSCs-derived EBs with IDE-1 shows minor increase ($p<0.01$) of DE-markers cells compared to Activin A/Wnt3a treatment. IDE1 possess several advantages over other inducing factors including high permeability, influence, diversity, low cost, and easy to use and for the first time, Melton's team showed that Activin A can be substituted by two cell-permeable small molecules, IDE1 and IDE2. IDE1 could induce phosphorylation of Smad2 after incubation for 24 h or more at levels comparable to those induced by Activin A treatment. Treatment of hiPSCs with IDE1 (2 mM) also leads to endodermal differentiation but with a significantly lower efficiency than Activin A/Wnt3a[1].

Solvent&Solubility

In Vitro:

DMSO : ≥ 30 mg/mL (97.94 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.2647 mL	16.3233 mL	32.6467 mL
	5 mM	0.6529 mL	3.2647 mL	6.5293 mL
	10 mM	0.3265 mL	1.6323 mL	3.2647 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 (8.16 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (8.16 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 (8.16 mM); Clear solution

	此方案可获得 ≥ 2.5 mg/mL (8.16 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 (8.16 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (8.16 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]. Hoveizi E, et al. Definitive endoderm differentiation of human-induced pluripotent stem cells using signaling molecules and IDE1 in three-dimensional polymer scaffold. J Biomed Mater Res A. 2014 Nov;102(11):4027-36.