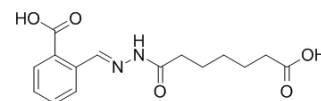


IDE1

Cat. No.:	HY-100533		
CAS No.:	1160927-48-9		
Molecular Formula:	C ₁₅ H ₁₈ N ₂ O ₅		
Molecular Weight:	306.31		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



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

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (8.16 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (8.16 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (8.16 mM); Clear solution

BIOLOGICAL ACTIVITY

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].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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.

Caution: Product has not been fully validated for medical applications. For research use only.

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