

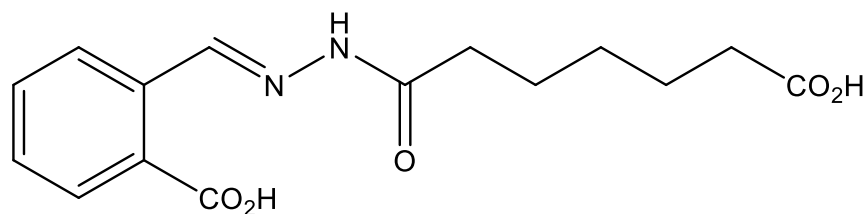
Catalog # 10-4159

IDE1

CAS# 1160927-48-9

(E/Z)-1-[2-[(2-Carboxyphenyl)methylene]hydrazide]heptanoic acid; 2-[(E/Z)-(6-Carboxyhexanoylhydrazinylidene)methyl]benzoic acid

Lot # JKM1066



IDE1 induces robust differentiation of embryonic stem cells into endoderm ($EC_{50} = 125$ nM) in both mouse and human cells *via* activation of the TGF β signaling pathway.^{1,2} It has been used in a simplified method to generate human microglia from pluripotent stem cells.³ IDE1 was also able to generate nephrogenic intermediate mesoderm cells from human pluripotent stem cells that had less toxicity and higher efficiency than cells generated with activin A.⁴ It was part of a step-wise all small molecule cocktail that was able to generate functional hepatic cells from human pluripotent stem cells.⁵

- 1) Borowiak *et al.* (2009) *Small molecules efficiently direct endodermal differentiation of mouse and human embryonic stem cells*; Cell Stem Cell, **4** 348
- 2) Hoveizi *et al.* (2014) *Definitive endoderm differentiation of human-induced pluripotent stem cells using signaling molecules and IDE1 in three-dimensional polymer scaffold*; J. Biomed. Mater. Res. A, **102** 4027
- 3) McQuade *et al.* (2018) *Development and validation of a simplified method to generate human microglia from pluripotent stem cells*; Mol. Neurodegener. **13** 67
- 4) Khoshdel-Rad *et al.* (2021) *Promoting Maturation of Human Pluripotent Stem Cell-Derived Renal Microtissue by Incorporation of Endothelial and Mesenchymal Cells*; Stem Cells Dev. **30** 428
- 5) Pan *et al.* (2022) *Efficiently generate functional hepatic cells from human pluripotent stem cells by complete small-molecule strategy*; Stem Cell Res. Ther. **13** 159

PHYSICAL DATA

Molecular Weight: 306.32
Molecular Formula: C₁₅H₁₈N₂O₅
Purity: >98% by TLC
NMR: (Conforms)
Solubility: DMSO (>25 mg/ml)
Physical Description: White solid
Storage and Stability: Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.