Small Molecules

IDE1

Activin/BMP/TGF-β pathway activator

Catalog # 72512 1 mg
72514 5 mg

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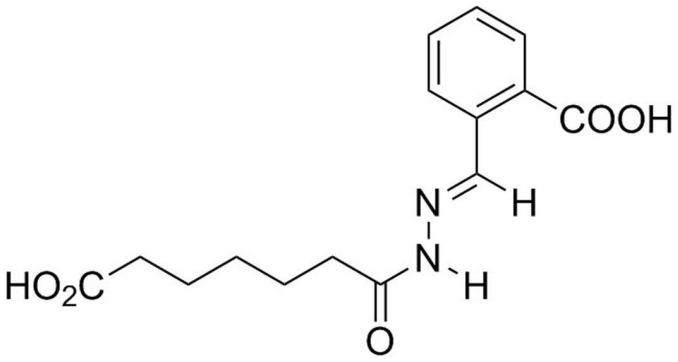
Product Description

Inducer of definitive endoderm 1 (IDE1) induces differentiation of mouse or human embryonic stem (ES) cells by activating SMAD2 phosphorylation and NODAL expression (Borowiak et al.). At EC_{50} = 125 nM, SOX17 expression was induced in mouse ES cells.

Molecular Name:	IDE1
Alternative Names:	Not applicable
CAS Number:	1160927-48-9
Chemical Formula:	$C_{15}H_{18}N_2O_5$
Molecular Weight:	306.3 g/mol
Purity:	≥ 95%
Chemical Name:	1-[2-[(2-carboxyphenyl)methylene]hydrazide]-heptanedioic acid
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· Absolute ethanol ≤ 320 µM · DMSO ≤ 80 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 326 µL of fresh DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

DIFFERENTIATION
· Induces differentiation of mouse or human ES cells to definitive endoderm in the absence of Activin A, NODAL, or feeder cells (Borowiak et al.).

References

Borowiak M et al. (2009) Small molecules efficiently direct endodermal differentiation of mouse and human embryonic stem cells. Cell Stem Cell 4(4): 348–58.

Related Small Molecules

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