TOCRIS
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Print Date: Sep 9th 2019

Certificate of Analysis

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Product Name: **IDE 1** **Catalog No.: 4015** **Batch No.: 1**

CAS Number: 1160927-48-9

IUPAC Name: 1-[2-[(2-Carboxyphenyl)methylene]hydrazide]heptanoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{15}H_{18}N_2O_5$

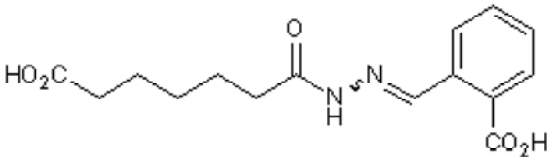
Batch Molecular Weight: 306.31

Physical Appearance: White solid

Solubility: 2eq. NaOH to 100 mM
DMSO to 100 mM
ethanol to 25 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.4% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	58.82	5.92	9.15
Found	58.72	5.9	9.06

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Product Information

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IUPAC Name: 1-[2-[(2-Carboxyphenyl)methylene]hydrazide]heptanoic acid

Description:

Induces definitive endoderm formation in mouse and human embryonic stem cells (ESCs) (EC_{50} = 125 nM). Thought to activate the TGF-β signaling pathway; induces Smad2 phosphorylation and increases levels of Nodal expression. This compound is mixture of E/Z isomers.

Physical and Chemical Properties:

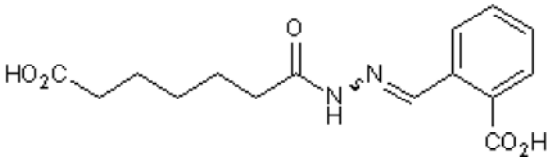
Batch Molecular Formula: $C_{15}H_{18}N_2O_5$

Batch Molecular Weight: 306.31

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at +4°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

2eq. NaOH to 100 mM
DMSO to 100 mM
ethanol to 25 mM

This compound is mixture of E/Z isomers.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

Licensing Information:

Sold for research purpose under license from Harvard University.

References:

Filby *et al* (2011) Stimulation of AVNA/Nodal signaling is insufficient to induce definitive endoderm formation of cord blood-derived unrestricted somatic stem cells. Stem Cell Res.Ther. ***2*** 16. PMID: 21463501.

Borowiak *et al* (2009) Small molecules efficiently direct endodermal differentiation of mouse and human embryonic stem cells. Cell Stem Cell ***4*** 348. PMID: 19341624.

Zaret (2009) Using small molecules to great effect in stem cell differentiation. Cell Stem Cell ***4*** 373. PMID: 19427285.

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