Print Date: Jan 22nd 2019

Certificate of Analysis

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Product Name: **(+)-Abscisic Acid** **Catalog No.: 6554** **Batch No.: 1**

CAS Number: 21293-29-8

IUPAC Name: (2*Z*,4*E*)-5-[(1*S*)-1-Hydroxy-2,6,6-trimethyl-4-oxo-2-cyclohexen-1-yl]-3-methyl-2,4-pentadienoic acid

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{15}H_{20}O_4$

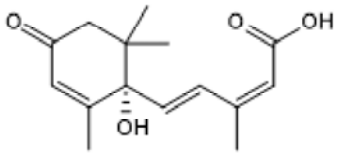
Batch Molecular Weight: 264.32

Physical Appearance: White solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.2% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +406 (Concentration = 1, Solvent = Ethanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	68.16	7.63	
Found	68.05	7.72	

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Description:

Endogenous lanthionine synthetase C-like 2 (LANCL2) ligand. Stimulates glucose uptake by myocytes and pre-adipocytes in vitro, and by brown adipose tissue in vivo. Acts as a pro-inflammatory modulator of innate immune system cells. Stimulates proliferation of human mesenchymal and hematopoietic stem cells. Also used to control Cas9 via a RNA polymerase-based biosensor.

Physical and Chemical Properties:

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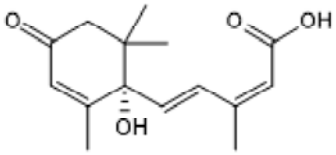
Batch Molecular Weight: 264.32

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at -20°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:

DMSO to 100 mM
ethanol to 100 mM

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.

References:

Pu *et al* (2018) Multidimensional control of Cas9 by evolved RNA polymerase-based biosensors. ACS Chem.Biol. ***13*** 431. PMID: 28809467.

Sturla *et al* (2017) Abscisic acid enhances glucose disposal and induces brown fat activity in adipocytes *in vitro* and *in vivo*. Biochim.Biophys.Acta. ***1862*** 131. PMID: 27871880.

Carbo *et al* (2016) An *N*,*N*-Bis(benzimidazolylpicolinoyl)piperazine (BT-11): A novel lanthionine synthetase C-Like 2-based therapeutic for inflammatory bowel disease. J.Med.Chem. ***59*** 10113. PMID: 27933891.

Fresia *et al* (2016) G-protein coupling and nuclear translocation of the human abscisic acid receptor LANCL2. Sci.Rep. ***6***. PMID: 27222287.