

# Certificate of Analysis

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**Product Name:** Valproic acid, sodium salt

CAS Number: 1069-66-5

IUPAC Name: Sodium 2-propylpentanoate

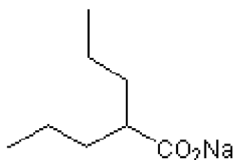
**Catalog No.:** 2815

EC Number: 213-961-8

**Batch No.:** 2

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>8</sub>H<sub>15</sub>NaO<sub>2</sub>.  
**Batch Molecular Weight:** 166.19  
**Physical Appearance:** White solid  
**Solubility:** water to 100 mM  
DMSO to 50 mM  
**Storage:** Desiccate at RT  
**Batch Molecular Structure:**



## 2. ANALYTICAL DATA

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	57.82	9.1	0
Found	57.83	9.06	0

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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## Product Information

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### Description:

Valproic acid, sodium salt is a histone deacetylase inhibitor ( $IC_{50}$  = 400  $\mu$ M) that exhibits anticancer, anti-inflammatory and neuroprotective effects. Displays anticonvulsive activity via an increase in GABA levels and decreases A $\beta$  production in animal models of Alzheimer's disease. Also attenuates NMDA-mediated excitation, blocks voltage-gated Na<sup>+</sup> channels and modulates firing of neurons. Enables induction of pluripotent stem cells from somatic cells by Oct4 and Sox2. Can induce autophagy by inhibiting inositol synthesis. Identified by chemoinformatics as targeting human host proteins that interact with SARS-CoV-2. Enables genera... Please see product specific page on [www.tocris.com](http://www.tocris.com) for full description.

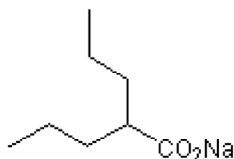
### Physical and Chemical Properties:

Batch Molecular Formula: C<sub>8</sub>H<sub>15</sub>NaO<sub>2</sub>.

Batch Molecular Weight: 166.19

Physical Appearance: White solid

### Batch Molecular Structure:



### References:

**Gordon et al** (2020) A SARS-CoV-2-human protein-protein interaction map reveals drug targets and potential drug-repurposing. *Nature* **583**. PMID: 32353859.

**Huangfu et al** (2008) Induction of pluripotent stem cells from primary human fibroblasts with only Oct4 and Sox2. *Nat.Biotechnol.* **26** 1269. PMID: 18849973.

**Qing et al** (2008) Valproic acid inhibits A $\beta$  production, neuritic plaque formation, and behavioural defects in Alzheimer's disease mouse models. *J.Exp.Med.* **205** 2781. PMID: 18955571.

**Storage:** Desiccate at RT

### Solubility & Usage Info:

water to 100 mM

DMSO to 50 mM

CAUTION - This product is extremely hygroscopic and we recommend that it is desiccated upon arrival.

### 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. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**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.

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