

## Certificate of Analysis

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

**Catalog No.:** 2815

**Batch No.:** 1

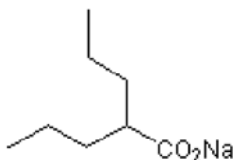
CAS Number: 1069-66-5

EC Number: 213-961-8

IUPAC Name: Sodium 2-propylpentanoate

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>8</sub>H<sub>15</sub>NaO<sub>2</sub>·0.2H<sub>2</sub>O  
**Batch Molecular Weight:** 169.79  
**Physical Appearance:** White crystalline 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

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	56.59	9.14	
Found	56.88	9.21	

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

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**Catalog No.:** 2815

**1**

CAS Number: 1069-66-5

EC Number: 213-961-8

IUPAC Name: Sodium 2-propylpentanoate

**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. For more in... Please see product specific page on www.tocris.com for full description.

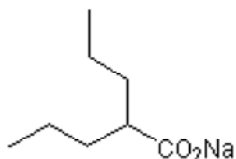
**Physical and Chemical Properties:**

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Physical Appearance: White crystalline 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. 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.

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