Valproic acid . sodium

HDAC inhibitor

Valproic acid . sodium is a versatile compound widely recognized for its therapeutic applications in treating epilepsy and bipolar disorder. Beyond its conventional uses, Valproic acid . sodium exhibits significant potential as a histone deacetylase (HDAC) inhibitor. HDACs are enzymes that remove acetyl groups from histone proteins, leading to chromatin condensation and transcriptional repression.

Valproic acid . sodium targets multiple HDAC classes, particularly Class I (HDAC1-3, 8) and Class IIa (HDAC4-5, 7, 9), thereby promoting hyperacetylation of histones H3 and H4. This hyperacetylation results in a more open chromatin structure, facilitating gene expression and potentially inducing cellular differentiation and growth arrest in transformed cells. These properties make Valproic acid . sodium a promising candidate for repurposing as a chemotherapeutic agent in cancer treatment.

Key features and applications include:

- **Anticonvulsant Properties:** Valproic acid . sodium is primarily known for its effectiveness in treating various types of seizures, including generalized, partial, and absence seizures. It increases the levels of gamma-aminobutyric acid (GABA) in the brain, which helps to calm neuronal activity and prevent seizures.
- **Mood Stabilization:** It is widely used in managing bipolar disorder, helping to stabilize mood swings and prevent manic episodes.
- **HDAC Inhibition:** Valproic acid . sodium acts as a histone deacetylase (HDAC) inhibitor, promoting gene expression by altering chromatin structure. Accordingly, it is being explored as a potential chemotherapeutic agent.

Relevant disease states include:

- **Epilepsy:** Effective in managing various forms of epilepsy, including generalized and partial seizures.
- **Bipolar Disorder:** Used to stabilize mood and prevent manic episodes.

- **Cancer:** Investigated for its potential in cancer therapy due to its ability to induce cellular differentiation and growth arrest.

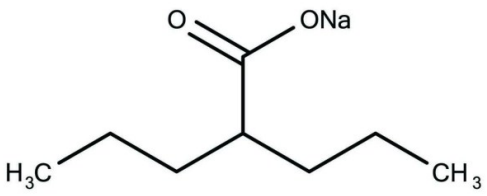
Ordering Information

Order Online »

ENZ-CHM367-0005	5g

Manuals, SDS & CofA

View Online »

O ONa H3C CH3	

Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended.
Short Term Storage	-20°C
Long Term Storage	-20°C
Shipping	Ambient Temperature

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	2-Propylpentanoic acid . Na, Sodium Valproate
Appearance	White solid.
CAS	1069-66-5
Couple Target	HDAC
Couple Type	Inhibitor
Formula	$C_8H_{15}NaO_2$
Identity	Determined by NMR.
MW	166.2
Purity	≥98% (TLC)
Solubility	Soluble in water (up to 50 mg/mL).

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ENZO LIFE SCIENCES, INC.
Phone: 800.942.0430
info-usa@enzolifesciences.com

European Sales Office
ENZO LIFE SCIENCES (ELS) AG
Phone: +41 61 926 8989
info-eu@enzolifesciences.com

Belgium, The Netherlands & Luxembourg
Phone: +32 3 466 0420
info-be@enzolifesciences.com

France
Phone: +33 472 440 655
info-fr@enzolifesciences.com

Germany
Phone: +49 7621 5500 526
info-de@enzolifesciences.com

UK & Ireland
Phone (UK customers): 0845 601 1488
Phone: +44 1392 825900
info-uk@enzolifesciences.com

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