Valproic Acid (sodium salt)

Item No. 13033

CAS Registry No.: 1069-66-5
Formal Name: 2-propyl-pentanoic acid, monosodium salt
Synonyms: 2-Propylvaleric Acid, Sodium Valproate
MF: C₈H₁₅O₂ • Na
FW: 166.2
Purity: >95%
Stability: ≥2 years at -20°C

Supplied as: A crystalline solid

Laboratory Procedures
For long term storage, we suggest that valproic acid (sodium salt) be stored as supplied at -20°C. It should be stable for at least two years.

Valproic acid (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the valproic acid (sodium salt) in an organic solvent purged with an inert gas. Valproic acid (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of valproic acid (sodium salt) in ethanol is approximately 30 mg/ml and approximately 5 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of valproic acid (sodium salt) can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of valproic acid (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Valproic acid is an analog of the natural fatty acid valeric acid. The sodium salt of valproic acid has long been used as an anti-convulsant to prevent many kinds of seizures. It is an inhibitor of histone deacetylases (HDACs), inhibiting Class I HDACs with an IC₅₀ value of ~2 mM. Valproic acid also inhibits glycogen synthase kinase 3 (GSK3) and depletes cellular inositol-1,4,5-trisphosphate (1,4,5-IP₃). Because of these actions, valproic acid shows promise in combination therapy for cancer and in treating Alzheimer’s disease. Valproic acid (1 mM) also has pronounced effects on stem cell differentiation and self-renewal.

References

Related Products
SB-431542 - Item No. 13031 • PD 173074 - Item No. 13032 • PD 0325901 - Item No. 13034 • Sodium Butyrate - Item No. 13121 • CHIR99021 - Item No. 13122 • BIO - Item No. 13123 • BIX01294 (hydrochloride hydrate) - Item No. 13124 • 2-AAPA - Item No. 13125 • Reversine - Item No. 10004412 • Retrerverine - Item No. 10006606 • Phosphomycin - Item No. 10009634

**WARNING:** This product is for laboratory research only: not for administration to humans. Not for human or veterinary diagnostic or therapeutic use.

**MATERIAL HANDLING DATA**
This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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