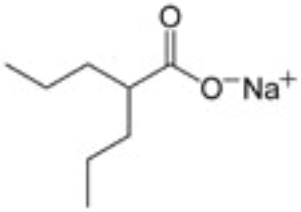
Sodium Valproate

Catalog Number P001-5GM



FEATURES

- Histone deacetylase inhibitor
- Anti-cancer, -inflammatory, neuroprotective effects
- Decreases Aβ production

INTRODUCTION

An anticonvulsant used in the treatment of epilepsy, anorexia nervosa, panic attack, anxiety disorder, post traumatic stress disorder, migraine and bipolar disorder. Valproate is also a histone deacetylase inhibitor (IC50 = 400 µM) that exhibits anticancer, anti-inflammatory and neuroprotective effects. Displays anticonvulsive activity via an increase in GABA levels and decreases Aβ production in animal models of Alzheimer's disease. Also attenuates NMDA-mediated excitation, blocks voltage-gated Na+ channels and modulates firing of neurons. Enables induction of pluripotent stem cells from somatic cells by Oct4 and Sox2.

Valproic acid also inhibits glycogen synthase kinase 3 (GSK3) and depletes cellular inositol-1,4,5-trisphosphate (1,4,5-IP_3). 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. Inhibits Class I HDACs with an IC50 value of ~2 mM.

FORM:	White Powder
MOLECULAR WEIGHT:	166.2
STORAGE:	4°C, desiccated
FORMULA:	$C_8H_{15}O_2Na$
CAS NUMBER:	1069-66-5
OTHER NAMES:	2-propyl-pentanoic acid, monosodium salt, 2-propylvaleric acid, monosodium salt, sodium 2-propylpentanoate
USES:	Soluble to 100 mM in water and 5 mg/ml in DMSO and DMF

REFERENCES:

Jung, G., Yoon, J., Moon, B., et al. Valproic acid induces differentiation and inhibition of proliferation in neural progenitor cells via the beta-catenin-Ras-ERK-p21Cip/WAFI pathway. BMC Cell Biol 9(66) (2008).

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