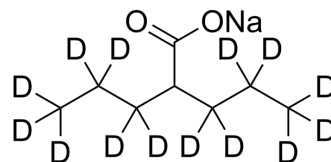


Valproic acid-d₁₄ sodium

Cat. No.:	HY-10585AS1
Molecular Formula:	C ₈ HD ₁₄ NaO ₂
Molecular Weight:	180.28
Target:	Notch; Autophagy; HDAC; HIV; Mitophagy; Endogenous Metabolite; Isotope-Labeled Compounds
Pathway:	Neuronal Signaling; Stem Cell/Wnt; Autophagy; Cell Cycle/DNA Damage; Epigenetics; Anti-infection; Metabolic Enzyme/Protease; Others
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



BIOLOGICAL ACTIVITY

Description	Valproic acid-d ₁₄ (sodium) is deuterium labeled Valproic acid (sodium). Valproic acid sodium salt (Sodium Valproate) is an HDAC inhibitor, with IC ₅₀ in the range of 0.5 and 2 mM, also inhibits HDAC1 (IC ₅₀ , 400 μM), and induces proteasomal degradation of HDAC2. Valproic acid sodium salt activates Notch1 signaling and inhibits proliferation in small cell lung cancer (SCLC) cells. Valproic acid sodium salt is used in the treatment of epilepsy, bipolar disorder and prevention of migraine headaches.
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Avery LB, et al. Valproic Acid Is a Novel Activator of AMP-Activated Protein Kinase and Decreases Liver Mass, Hepatic Fat Accumulation, and Serum Glucose in Obese Mice. *Mol Pharmacol*. 2014 Jan;85(1):1-10.
- [2]. Cohen OS, et al. Acute prenatal exposure to a moderate dose of valproic acid increases social behavior and alters gene expression in rats. *Int J Dev Neurosci*. 2013 Dec;31(8):740-50.
- [3]. Han BR, et al. Valproic acid inhibits the growth of HeLa cervical cancer cells via caspase-dependent apoptosis. *Oncol Rep*. 2013 Dec;30(6):2999-3005.
- [4]. Platta CS, et al. Valproic acid induces Notch1 signaling in small cell lung cancer cells. *J Surg Res*. 2008 Jul;148(1):31-7.
- [5]. Valproic acid, et al. Histone deacetylase is a direct target of valproic acid, a potent anticonvulsant, mood stabilizer, and teratogen. *J Biol Chem*. 2001 Sep 28;276(39):36734-41.
- [6]. Zhang ZH, et al. Valproic acid inhibits tumor angiogenesis in mice transplanted with Kasumi 1 leukemia cells. *Mol Med Rep*. 2013 Nov 28.
- [7]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.

Caution: Product has not been fully validated for medical applications. For research use only.

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