# Product Data Sheet

Product Name: Sodium butyrate-d 3
Cat. No.: GC80477

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 347840-05-5 | | |
| Formula | $C_4H_4D_3NaO_2$ | M.Wt | 113.11 |
| Solubility | $H_2O$: 75 mg/mL (663.07 mM; Need ultrasonic) | Storage | Store at -20°C |
| General tips | For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months. | | |
| Shipping Condition | Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request. | | |

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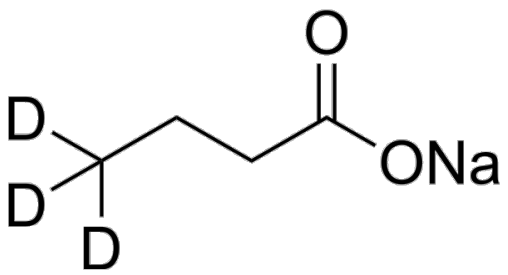
Structure




## Background

Sodium butyrate -d 3 (Butanoic acid-d 3 sodium) is the deuterium labeled Sodium butyrate. Sodium Butyrate (sodium butanoate) is an inhibitor of HDAC, possessing anti-tumor activity [1] [2] [3] [4] [5].

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.

References:

[1]. Jaworska J, et al. The potential neuroprotective role of a histone deacetylase inhibitor, sodium butyrate, after neonatal hypoxia-ischemia. J Neuroinflammation. 2017 Feb 10;14(1):34
[2]. Qiu Y, et al. Effect of sodium butyrate on cell proliferation and cell cycle in porcine intestinal

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epithelial (IPEC-J2) cells. In Vitro Cell Dev Biol Anim. 2017 Jan 27
[3]. Jung HY, et al. Sirtuin-2 inhibition affects hippocampal functions and sodium butyrate ameliorates the reduction in novel object memory, cell proliferation, and neuroblast differentiation. Lab Anim Res. 2016 Dec;32(4):224-230
[4]. Huang W, et al. Inhibition of store-operated Ca2+ entry counteracts the apoptosis of nasopharyngeal carcinoma cells induced by sodium butyrate. Oncol Lett. 2017 Feb;13(2):921-929
[5]. Wang P, et al. Sodium butyrate triggers a functional elongation of microglial process via Akt-small RhoGTPase activation and HDACs inhibition. Neurobiol Dis. 2017 Dec 14;111:12-25.

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