

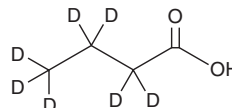
PRODUCT INFORMATION



Butyric Acid-d₇

Item No. 29408

CAS Registry No.: 73607-83-7
MF: C₄HD₇O₂
FW: 95.1
Chemical Purity: ≥98% (Butyric Acid)
Deuterium
Incorporation: ≥98% deuterated forms (d₁-d₇); ≤2% d₀
Supplied as: A liquid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Butyric acid-d₇ is intended for use as an internal standard for the quantification of sodium butyrate (Item No. 13121) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Butyric acid-d₇ is supplied as a liquid. A stock solution may be made by dissolving the butyric acid-d₇ in the solvent of choice, which should be purged with an inert gas. Butyric acid-d₇ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of butyric acid-d₇ in these solvents is approximately 30 mg/ml.

Description

Butyric acid is a short-chain fatty acid.¹ It is produced predominately by bacterial fermentation of dietary fiber in the colon but has also been identified in mammalian milk.^{1,2} Butyric acid is an inhibitor of histone deacetylase (HDAC; IC₅₀ = 90 μM in a cell-free assay).³ It induces differentiation, cell cycle arrest at the G₀ phase, and apoptosis, as well as inhibits proliferation, in a variety of cancer cells when used at concentrations ranging from 0.6 to 100 mM.^{1,4-6} Butyric acid decreases the expression of IFN-γ-related signaling genes and metastatic genes in H460 human lung cancer cells when used at a concentration of 2 mM.⁵ It reduces tumor growth in a CaSki mouse xenograft model when administered at doses of 200 and 800 mg/kg per day.⁴ Butyric acid also reduces increases in colonic *Tnfa* and *Il6* expression and decreases colonic goblet cell depletion, tissue damage, muscle thickening, and cellular infiltration in a wild-type, but not *Hcar2*^{-/-}, mouse model of TNBS-induced colitis.⁷

References

1. Wang, M., Wichienchot, S., He, X., et al. *Trends Food Sci. Technol.* **88(1)**, 1-9 (2019).
2. Smith, J.G., Yokoyama, W.H., and German, J.B. *Crit. Rev. Food Sci. Nutr.* **38(4)**, 259-297 (1998).
3. Waldecker, M., Kautenburger, T., Daumann, H., et al. *J. Nutr. Biochem.* **19(9)**, 587-593 (2008).
4. Decrion-Barthod, A.-Z., Bosset, M., Plissonnier, M.-L., et al. *Anticancer Res.* **30(10)**, 4049-4061 (2010).
5. Joseph, J., Mudduluru, G., Antony, S., et al. *Oncogene* **23(37)**, 6304-6315 (2004).
6. Chabanas, A., Khoury, E., Goeltz, P., et al. *J. Mol. Biol.* **183(2)**, 141-151 (1985).
7. Chen, G., Ran, X., Li, B., et al. *EBioMedicine* **30(1)**, 317-325 (2018).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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