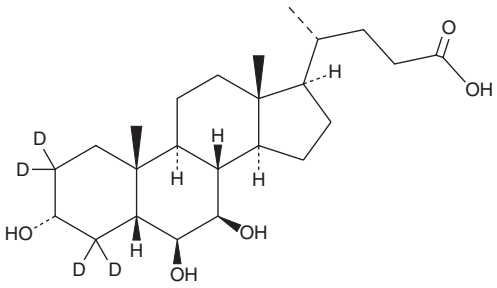
PRODUCT INFORMATION

β-Muricholic Acid-d_4

Item No. 27035

Formal Name:	(5β)-3α,6β,7β-trihydroxy-cholan-2,2,4,4-d_4-24-oic acid
Synonyms:	5β-Cholanic Acid-3α,6β,7β-triol-d_4, β-MCA-d_4
MF:	$C_{24}H_{36}D_4O_5$
FW:	412.6
Chemical Purity:	≥98% (β-Muricholic Acid)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

β-Muricholic acid-d_4 (β-MCA-d_4) is intended for use as an internal standard for the quantification of β-muricholic acid (Item No. 20287) 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).

β-MCA-d_4 is supplied as a crystalline solid. A stock solution may be made by dissolving the β-MCA-d_4 in the solvent of choice, which should be purged with an inert gas. β-MCA-d_4 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of β-MCA-d_4 in ethanol and DMSO is approximately 20 mg/ml and approximately 30 mg/ml in DMF.

Description

β-MCA is a murine-specific primary bile acid.[1,2] Dietary administration of β-MCA reduces HMG-CoA reductase activity in liver microsomes from mice fed a high cholesterol and cholic acid diet.[3] Dietary administration of β-MCA also dissolves 100% of gallstones in a gallstone-susceptible mouse model of diet-induced cholesterol gallstones.[4]

References

1. Eyssen, H.J., Parmentier, G.G., and Mertens, J.A. Sulfate bile acids in germ-free and conventional mice. *Eur. J. Biochem.* **66(3)**, 507-514 (1976).
2. Wahlström, A., Sayin, S.I., Marschall, H.-I., *et al.* Intestinal crosstalk between bile acids and microbiota and its impact on host metabolism. *Cell Metab.* **24(1)**, 41-50 (2016).
3. Fujino, Y., Nakayama, K., Yoshimura, K., *et al.* Suppression of hepatic HMG-CoA reductase activity by β-muricholic acid in mice fed a diet containing cholesterol and cholic acid. *Jpn. J. Pharmacol.* **46(4)**, 421-423 (1988).
4. Wang, D.Q.-H. and Tazuma, S. Effect of β-muricholic acid on the prevention and dissolution of cholesterol gallstones in C57L/J mice. *J. Lipid. Res.* **43(11)**, 1960-1968 (2002).

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