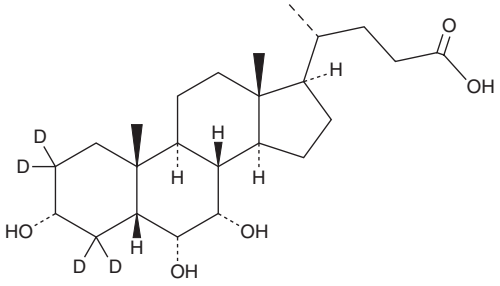
PRODUCT INFORMATION

Hyocholic Acid-d_4

Item No. 27033

Formal Name: (R)-4-((3R,5R,6R,7S,8S,9S,10R,13R,14S,17R)-3,6,7-trihydroxy-10,13-dimethylhexadecahydro-1H-cyclopenta[a]phenanthren-17-yl-2,2,4,4-d_4) pentanoic acid
Synonyms: HCA-d_4, γ-MCA-d_4, γ-Muricholic Acid-d_4
MF: $C_{24}H_{36}D_4O_5$
FW: 412.6
Chemical Purity: ≥95% (Hyocholic 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

Hyocholic acid-d_4 is intended for use as an internal standard for the quantification of hyocholic acid (Item No. 20293) 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).

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

Description

Hyocholic acid is a primary bile acid in pigs and other mammals.[1] It has also been found in urine samples from patients with cholestasis.[2] Hyocholic acid is converted by gut microflora primarily to taurohyocholate and, to a lesser extent, taurocholic acid (Item No. 16215) and tauro-β-muricholic acid (Item No. 20289) in mice.[3] Hyocholic acid has low toxicity against human hepatoma HepG2 cells.[3,4]

References

1. Lundell, K. and Wikvall, K. Species-specific and age-dependent bile acid composition: Aspects on CYP8B and CYP4A subfamilies in bile acid biosynthesis. *Curr. Drug Metab.* **9(4)**, 323-331 (2008).
2. van Berge Henegouwen, G.P., Brandt, K.H., Eyssen, H., *et al.* Sulphated and unsulphated bile acids in serum, bile, and urine of patients with cholestasis. *Gut* **17(11)**, 861-869 (1976).
3. Wang, D.Q.-H., Tazuma, S., Cohen, D.E., *et al.* Feeding natural hydrophilic bile acids inhibits intestinal cholesterol absorption: Studies in the gallstone-susceptible mouse. *Am. J. Physiol Gastrointest. Liver Physiol.* **285(3)**, G494-G502 (2003).
4. Perreault, M., Bialek, A., Trottier, J., *et al.* Role of glucuronidation for hepatic detoxification and urinary elimination of toxic bile acids during biliary obstruction. *PLoS One* **8(11)**, e80994 (2013).

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