

PRODUCT INFORMATION



Hyocholic Acid-d₄

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-d₄ pentanoic acid

Synonyms: HCA-d₄, γ-MCA-d₄, γ-Muricholic Acid-d₄

MF: C₂₄H₃₆D₄O₅

FW: 412.6

Chemical Purity: ≥95% (Hyocholic Acid)

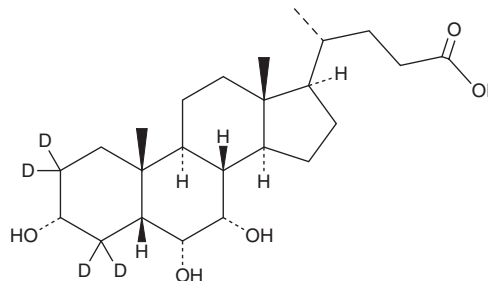
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀

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-d₄ 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-d₄ is supplied as a crystalline solid. A stock solution may be made by dissolving the hyocholic acid-d₄ in the solvent of choice, which should be purged with an inert gas. Hyocholic acid-d₄ is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of hyocholic acid-d₄ 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).

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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