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PRODUCT INFORMATION



Taurohyocholic Acid-d₄ (sodium salt)

Item No. 27038

Formal Name: 2-[[[(3 α ,5 β ,6 α ,7 α)-3,6,7-trihydroxy-24-oxocholan-24-yl]-2,2,4,4-d₄]amino]ethanesulfonic acid, monosodium salt

Synonyms: Taurine Hyocholate-d₄, Tauro- γ -muricholic Acid-d₄, Taurohyocholate-d₄, THCA-d₄

MF: C₂₆H₄₀D₄NO₇S • Na

FW: 541.7

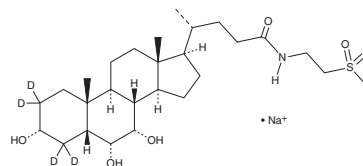
Chemical Purity: \geq 98% (Taurohyocholic Acid)

Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₄); \leq 1% d₀

Supplied as: A crystalline solid

Storage: -20°C

Stability: \geq 2 years



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

Laboratory Procedures

Taurohyocholic acid-d₄ (THCA-d₄) (sodium salt) is intended for use as an internal standard for the quantification of THCA (Item No. 22669) 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).

THCA-d₄ (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the THCA-d₄ (sodium salt) in the solvent of choice, which should be purged with an inert gas. THCA-d₄ (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of THCA-d₄ (sodium salt) in ethanol and DMSO is approximately 20 mg/ml and approximately 30 mg/ml in DMF.

THCA-d₄ (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, THCA-d₄ (sodium salt) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. THCA-d₄ (sodium salt) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

THCA is a taurine-conjugated form of the porcine-specific primary bile acid hyocholic acid (Item No. 20293).¹ THCA inhibits precipitation of cholesterol crystals by stabilizing cholesterol in the liquid-crystalline phase.² It prevents cholestasis and cellular necrosis induced by taurolithocholic acid (Item No. 17275) in isolated rat liver.³ THCA levels are increased in the urine of patients with hepatitis B-induced cirrhosis.⁴

References

1. 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).
2. Juste, C., Catala, I., Henry, R., *et al.* Influence of bile salt molecular species on cholesterol crystallization from supersaturated model bile. *Biochim. Biophys. Acta.* **1254**(1), 89-97 (1995).
3. Scholmerich, J., Kitamura, S., Baumgartner, U., *et al.* Taurohyocholate, taurocholate, and tauroursodeoxycholate but not tauroursocholate and taurodehydrocholate counteract effects of taurolithocholate in rat liver. *Res. Exp. Med. (Berl.)* **190**(2), 121-129 (1990).
4. Wang, X., Xie, G., Zhao, A., *et al.* Serum bile acids are associated with pathological progression of hepatitis B-induced cirrhosis. *J. Proteome Res.* **15**(4), 1126-1134 (2016).

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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