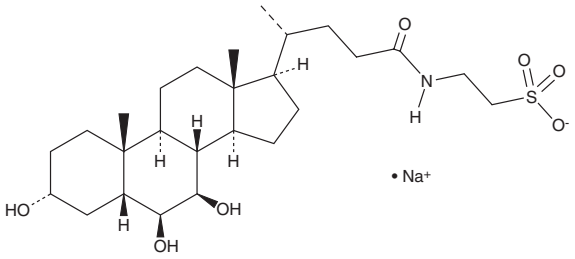
PRODUCT INFORMATION

Tauro-β-muricholic Acid (sodium salt)

Item No. 20289

CAS Registry No.: 145022-92-0
Formal Name: 2-[[(3α,5β,6β,7β)-3,6,7-trihydroxy-24-oxocholan-24-yl]amino]-ethanesulfonic acid, monosodium salt
Synonyms: Tauro-β-muricholate, TβMCA
MF: $C_{26}H_{44}NO_7S \bullet Na$
FW: 537.7
Purity: ≥95%
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

Tauro-β-muricholic Acid (TβMCA) (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the TβMCA (sodium salt) in the solvent of choice. TβMCA (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of TβMCA (sodium salt) in ethanol is approximately 1 mg/ml and approximately 10 mg/ml in DMSO and DMF.

TβMCA (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TβMCA (sodium salt) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. TβMCA (sodium salt) has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

TβMCA (sodium salt) is a competitive and reversible antagonist of the farnesoid X receptor (FXR; IC_{50} = 40 µM) and a taurine-conjugated form of the murine-specific primary bile acid β-muricholic acid (Item No. 20287).[1] TβMCA accumulates in germ-free mice under normal conditions but is reduced after colonization with feces from a human donor.[1,2] TβMCA is increased in the intestines of mice resistant to high-fat diet-induced obesity, fatty liver, and diabetes.[3]

References

1. Sayin, S.I., Wahlström, A., Felin, J., *et al.* Gut microbiota regulates bile acid metabolism by reducing the levels of tauro-beta-muricholic acid, a naturally occurring FXR antagonist. *Cell Metab.* **17(2)**, 225-235 (2013).
2. Wahlström, A., Kovatcheva-Datchary, P., Ståhlman, M., *et al.* Induction of farnesoid X receptor signaling in germ-free mice colonized with a human microbiota. *J. Lipid. Res.* **58(2)**, 412-419 (2017).
3. Qi, Y., Jiang, C., Cheng, J., *et al.* Bile acid signaling in lipid metabolism: Metabolomic and lipidomic analysis of lipid and bile acid markers linked to anti-obesity and anti-diabetes in mice. *Biochim Biophys. Acta.* **1851(1)**, 19-29 (2015).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM