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Produktinformation

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- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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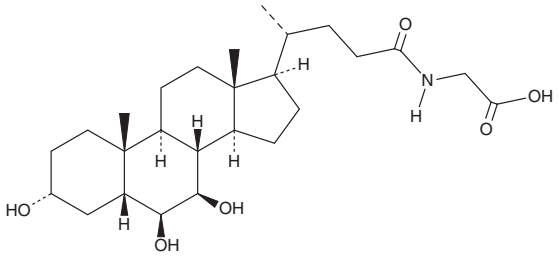
PRODUCT INFORMATION

Glycine-β-muricholic Acid

Item No. 9003230

CAS Registry No.:	66225-78-3
Formal Name:	N-[(3α,5β,6β,7β)-3,6,7-trihydroxy-24-oxocholan-24-yl]-glycine
Synonyms:	Gly-MCA, GβMCA
MF:	$C_{26}H_{43}NO_6$
FW:	465.6
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

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

GβMCA is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, GβMCA should first be dissolved in DMF and then diluted with the aqueous buffer of choice. GβMCA 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

GβMCA is an intestine-selective antagonist of the farnesoid X receptor (FXR) and the glycine-conjugated form of the murine-specific primary bile acid β-muricholic acid (Item No. 20287).[1,2] It inhibits expression of the FXR target genes *Shp* and *Fgf15* induced by the FXR ligands chenodeoxycholic acid (Item No. 10011286) and GW 4064 (Item No. 10006611) in Caco-2 cells when used at a concentration of 100 µM. GβMCA is resistant to hydrolysis by fecal bile salt hydrolase (BSH) isolated from gut microbiota, indicating gut stability. Dietary administration of GβMCA (10 mg/kg) decreases *Shp* and *Fgf15* mRNA expression in ileum, but not liver, and reduces ceramide levels and expression of the ceramide synthesis-related genes *Sptlc2*, *Sptlc3*, *Cers2*, *Cers4*, *Degs1*, *Degs2*, *Smpd3*, and *Smpd4* in ileum of mice with high-fat diet-induced obesity and *db/db* mice. It also prevents weight gain, reduces blood glucose levels, and increases insulin sensitivity as well as prevents development of cholestasis and necrotic lesions in liver of mice with high-fat diet-induced obesity.

References

1. Jiang, C., Xie, C., Lv, Y., *et al.* Intestine-selective farnesoid X receptor inhibition improves obesity-related metabolic dysfunction. *Nat. Commun.* **6**, 10166 (2015).
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).

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