

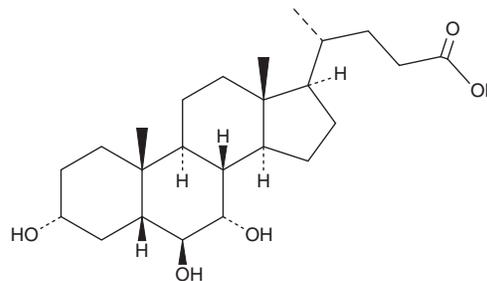
# PRODUCT INFORMATION



## $\alpha$ -Muricholic Acid

Item No. 20291

<b>CAS Registry No.:</b>	2393-58-0
<b>Formal Name:</b>	(3 $\alpha$ ,5 $\beta$ ,6 $\beta$ ,7 $\alpha$ )-3,6,7-trihydroxy-cholan-24-oic acid
<b>Synonyms:</b>	5 $\beta$ -Cholanic Acid-3 $\alpha$ ,6 $\beta$ ,7 $\alpha$ -triol, $\alpha$ -MCA
<b>MF:</b>	C <sub>24</sub> H <sub>40</sub> O <sub>5</sub>
<b>FW:</b>	408.6
<b>Purity:</b>	≥95%
<b>Supplied as:</b>	A crystalline solid
<b>Storage:</b>	-20°C
<b>Stability:</b>	≥2 years



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

### Laboratory Procedures

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

$\alpha$ -Muricholic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers,  $\alpha$ -muricholic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice.  $\alpha$ -Muricholic acid 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

$\alpha$ -Muricholic acid is a murine-specific primary bile acid.<sup>1,2</sup> Dietary administration of soybean protein decreases fecal levels of  $\alpha$ -muricholic acid in mice with high-fat diet-induced obesity which correlates with increases in fecal *Clostridium* cluster XIVa, a major producer of secondary bile acids.<sup>3</sup> Plasma, liver, and muscle levels of  $\alpha$ -muricholic acid are increased in mice switched from a high-fat to low-fat diet.<sup>4</sup>

### References

1. Eyssen, H.J., Parmentier, G.G., and Mertens, J.A. Sulfate bile acids in germ-free and conventional mice. *Eur. J. Biochem.* **66**(3), 507-514 (1976).
2. Uehara, T., Xi Peng, X., Bennett, B., et al. c-Jun N-terminal kinase mediates hepatic injury after rat liver transplantation. *Transplantation* **78**(3), 324-332 (2004).
3. Watanabe, K., Igarashi, M., Li, X., et al. Dietary soybean protein ameliorates high-fat diet-induced obesity by modifying the gut microbiota-dependent biotransformation of bile acids. *PLoS One* **13**(8), e0202083 (2018).
4. La Frano, M.R., Hernandez-Carretero, A., Weber, N., et al. Diet-induced obesity and weight loss alter bile acid concentrations and bile acid-sensitive gene expression in insulin target tissues of C57BL/6J mice. *Nutr. Res.* **46**, 11-21 (2017).

#### 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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