

# PRODUCT INFORMATION

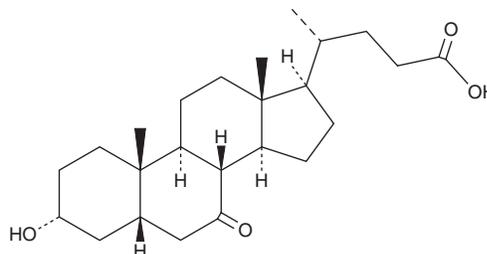


## 7-keto Lithocholic Acid

Item No. 29546

**CAS Registry No.:** 4651-67-6  
**Formal Name:** (3 $\alpha$ ,5 $\beta$ )-3-hydroxy-7-oxo-cholan-24-oic acid  
**Synonyms:** 7-KLCA, 7-keto LCA, 7-oxo LCA, 7-keto Lithocholate, 7-oxo Lithocholate, 7-oxo Lithocholic Acid, NSC 226118

**MF:** C<sub>24</sub>H<sub>38</sub>O<sub>4</sub>  
**FW:** 390.6  
**Purity:**  $\geq$ 98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:**  $\geq$ 4 years



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

### Laboratory Procedures

7-keto Lithocholic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 7-keto lithocholic acid in the solvent of choice, which should be purged with an inert gas. 7-keto Lithocholic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 7-keto lithocholic acid in these solvents is approximately 30 mg/ml.

7-keto Lithocholic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 7-keto lithocholic acid should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 7-keto Lithocholic acid has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

7-keto Lithocholic acid is an intermediate in the synthesis of the secondary bile acid ursodeoxycholic acid (Item No. 15121) by intestinal bacteria in humans.<sup>1,2</sup> It is formed from chenodeoxycholic acid (Item No. 10011286) in *B. intestinalis* isolated from human feces.<sup>1</sup> Venous infusion of 7-keto lithocholic acid (1.2  $\mu$ mol/min per 100 g body weight) increases the bile flow rate and the concentration of bile bicarbonate in rats.<sup>3</sup> 7-keto Lithocholic acid levels are decreased in rat feces in a model of adenine-induced chronic renal failure.<sup>4</sup> Fecal levels are also reduced in patients with liver cirrhosis or hepatocellular carcinoma.<sup>5</sup>

### References

1. Fukiya, S., Arata, M., Kawashima, H., *et al.* Conversion of cholic acid and chenodeoxycholic acid into their 7-oxo derivatives by *Bacteroides intestinalis* AM-1 isolated from human feces. *FEMS Microbiol. Lett.* **293(2)**, 263-270 (2009).
2. Fromm, H., Carlson, G.L., Hofmann, A.F., *et al.* Metabolism in man of 7-ketolithocholic acid: Precursor of cheno- and ursodeoxycholic acids. *Am. J. Physiol.* **239(3)**, G161-G166 (1980).
3. Kanai, S., Sato, Y., Nokubo, M., *et al.* Hepatic biotransformation and choleric effect of 7-ketolithocholic acid in the rat. *Lipids* **24(10)**, 859-865 (1989).
4. Zhao, Y.Y., Cheng, X.L., Wei, F., *et al.* Application of faecal metabonomics on an experimental model of tubulointerstitial fibrosis by ultra performance liquid chromatography/high-sensitivity mass spectrometry with MS<sup>E</sup> data collection technique. *Biomarkers* **17(8)**, 721-729 (2012).
5. Cao, H., Huang, H., Xu, W., *et al.* Fecal metabolome profiling of liver cirrhosis and hepatocellular carcinoma patients by ultra performance liquid chromatography-mass spectrometry. *Anal. Chim. Acta* **691(1-2)**, 68-75 (2011).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/14/2022

#### 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