

Product data sheet



MedKoo Cat#: 525374 Name: Lanatoside C CAS: 17575-22-3 Chemical Formula: C ₄₉ H ₇₆ O ₂₀ Exact Mass: 984.493 Molecular Weight: 985.127	
Product supplied as: Powder	
Purity (by HPLC): ≥ 98%	
Shipping conditions: Ambient temperature	
Storage conditions: Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

Lanatoside C is an anticancer agent, acting through protein kinase C-delta (PKCdelta) to cause apoptosis of human hepatocellular carcinoma cells.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	50.0	50.75
Ethanol	2.0	2.03

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	1.02 mL	5.08 mL	10.15 mL
5 mM	0.20 mL	1.02 mL	2.03 mL
10 mM	0.10 mL	0.51 mL	1.02 mL
50 mM	0.02 mL	0.10 mL	0.20 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Duan Y, Chen L, Shao J, Jiang C, Zhao Y, Li Y, Ke H, Zhang R, Zhu J, Yu M. Lanatoside C inhibits human cervical cancer cell proliferation and induces cell apoptosis by a reduction of the JAK2/STAT6/SOCS2 signaling pathway. *Oncol Lett.* 2021 Oct;22(4):740. doi: 10.3892/ol.2021.13001. Epub 2021 Aug 17. PMID: 34466152; PMCID: PMC8387865.

2. Reddy D, Kumavath R, Ghosh P, Barh D. Lanatoside C Induces G2/M Cell Cycle Arrest and Suppresses Cancer Cell Growth by Attenuating MAPK, Wnt, JAK-STAT, and PI3K/AKT/mTOR Signaling Pathways. *Biomolecules.* 2019 Nov 27;9(12):792. doi: 10.3390/biom9120792. PMID: 31783627; PMCID: PMC6995510.

In vivo study

1. Nie Y, Zhang D, Jin Z, Li B, Wang X, Che H, You Y, Qian X, Zhang Y, Zhao P, Chai G. Lanatoside C protects mice against bleomycin-induced pulmonary fibrosis through suppression of fibroblast proliferation and differentiation. *Clin Exp Pharmacol Physiol.* 2019 Jun;46(6):575-586. doi: 10.1111/1440-1681.13081. Epub 2019 Apr 7. PMID: 30854687.

2. Shi H, Mao X, Zhong Y, Liu Y, Zhao X, Yu K, Zhu R, Wei Y, Zhu J, Sun H, Mao Y, Zeng Q. Lanatoside C Promotes Foam Cell Formation and Atherosclerosis. *Sci Rep.* 2016 Jan 29;6:20154. doi: 10.1038/srep20154. PMID: 26821916; PMCID: PMC4731744.

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7. Bioactivity

Biological target:

Lanatoside C is a cardiac glycoside, can be used in the treatment of congestive heart failure and cardiac arrhythmia. Lanatoside C has an IC₅₀ of 0.19 μ M for dengue virus infection in HuH-7 cells.

In vitro activity

In the present study, lanatoside C, an FDA-approved cardiac glycoside used for the treatment of heart failure, was demonstrated to have anti-proliferative and cytotoxic effects on cervical cancer cells, with abrogation of cell migration in a dose-dependent manner. Lanatoside C also triggered cell apoptosis by enhancing reactive oxygen species production and reducing the mitochondrial membrane potential, which induced cell cycle arrest at the S and G₂/M phases.

Reference: Oncol Lett. 2021 Oct;22(4):740. <https://pubmed.ncbi.nlm.nih.gov/34466152/>

In vivo activity

The proliferation of cultured pulmonary fibroblasts isolated from BLM-induced PF mice was suppressed by lanatoside C, as hypothesized, through the induction of cell apoptosis and cell cycle arrest at the G₂/M phase. In addition, TGF- β 1-induced migration in lung fibroblasts was also impeded after lanatoside C treatment. Together, these data revealed that lanatoside C alleviated BLM-induced pulmonary fibrosis in mice via attenuation of growth and differentiation of fibroblasts, suggesting that it has potential as a candidate therapy for PF patients.

Reference: Clin Exp Pharmacol Physiol. 2019 Jun;46(6):575-586. <https://pubmed.ncbi.nlm.nih.gov/30854687/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.