

Product data sheet



MedKoo Cat#: 462512 Name: Ursodoxicoltaurine CAS#: 14605-22-2 Chemical Formula: C ₂₆ H ₄₅ NO ₆ S Exact Mass: 499.2968 Molecular Weight: 499.707	
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:

Ursodoxicoltaurine is a neuroprotectant.

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
DMF	10.0	20.01
DMSO	53.0	106.06
DMSO:PBS (pH 7.2) (1:4)	0.2	0.40
Ethanol	50.0	100.06
Water	12.5	25.01

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.00 mL	10.01 mL	20.01 mL
5 mM	0.40 mL	2.00 mL	4.00 mL
10 mM	0.20 mL	1.00 mL	2.00 mL
50 mM	0.04 mL	0.20 mL	0.40 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

- Chen F, Ge Z, Li N, Yu Z, Wu R, Zhao Y, He X, Cai G. TUDCA protects against tunicamycin-induced apoptosis of dorsal root ganglion neurons by suppressing activation of ER stress. *Exp Ther Med.* 2022 Jun 10;24(2):509. doi: 10.3892/etm.2022.11436. PMID: 35837048; PMCID: PMC9257946.
- Kim SY, Kwon YW, Jung IL, Sung JH, Park SG. Tauroursodeoxycholate (TUDCA) inhibits neointimal hyperplasia by suppression of ERK via PKC α -mediated MKP-1 induction. *Cardiovasc Res.* 2011 Nov 1;92(2):307-16. doi: 10.1093/cvr/cvr219. Epub 2011 Aug 11. PMID: 21840882.

In vivo study

- Pasha M, Kirschenman R, Wooldridge A, Spaans F, Cooke CM, Davidge ST. The Effect of Tauroursodeoxycholic Acid (TUDCA) Treatment on Pregnancy Outcomes and Vascular Function in a Rat Model of Advanced Maternal Age. *Antioxidants (Basel).* 2022 Jun 28;11(7):1275. doi: 10.3390/antiox11071275. PMID: 35883766; PMCID: PMC9312116.
- Song M, Zhang F, Fu Y, Yi X, Feng S, Liu Z, Deng D, Yang Q, Yu M, Zhu C, Zhu X, Wang L, Gao P, Shu G, Ma X, Jiang Q, Wang S. Tauroursodeoxycholic acid (TUDCA) improves intestinal barrier function associated with TGR5-MLCK pathway and the

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alteration of serum metabolites and gut bacteria in weaned piglets. J Anim Sci Biotechnol. 2022 Jun 8;13(1):73. doi: 10.1186/s40104-022-00713-3. PMID: 35672805; PMCID: PMC9175448.

7. Bioactivity

Biological target:

Tauroursodeoxycholate (Tauroursodeoxycholic acid) is an endoplasmic reticulum (ER) stress inhibitor. Tauroursodeoxycholate significantly reduces expression of apoptosis molecules, such as caspase-3 and caspase-12. Tauroursodeoxycholate also inhibits ERK.

In vitro activity

As shown in Fig. 3, the percentages of TUNEL-positive apoptotic cells were increased up to 60% in groups exposed to tunicamycin compared with the TUN only group; however, there was no change when cells were exposed to TUDCA alone. As expected, pretreatment with TUDCA reduced the occurrence of apoptosis in tunicamycin-treated DRG neurons (Fig. 3), indicating the neuroprotective role of TUDCA.

Reference: Exp Ther Med. 2022 Jun 10;24(2):509. <https://pubmed.ncbi.nlm.nih.gov/35837048/>

In vivo activity

Compared with the CON group, TUDCA supplementation improved the intestinal morphology by increasing the V/C ratios in jejunum and ileum ($P < 0.05$) (Fig. 1A, B). In addition, PAS staining results showed that TUDCA supplementation increased the number of goblet cells secreting mucopolysaccharides in jejunum and ileum ($P < 0.05$, Fig. 1C and D). Furthermore, the expression of TJ proteins, such as OCC and Claudin-1, was higher in jejunum of piglets supplemented with TUDCA ($P < 0.05$, Fig. 2A, B). Accordingly, the intestinal permeability was reduced, which was manifested by the decreased serum LPS and DAO levels ($P < 0.05$, Fig. 2C, D). These above results suggested that dietary supplementation of TUDCA enhanced intestinal barrier function of weaned piglets.

Reference: J Anim Sci Biotechnol. 2022 Jun 8;13(1):73. <https://pubmed.ncbi.nlm.nih.gov/35672805/>

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.