

Product data sheet



MedKoo Cat#: 596950 Name: L-Carnitine tartrate CAS: 36687-82-8 Chemical Formula: C ₁₁ H ₂₁ NO ₉ Molecular Weight: 311.28	
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:

L-Carnitine tartrate is a Carnitine/ Constituent of striated muscle and liver. It is used therapeutically to stimulate gastric and pancreatic secretions and in the treatment of hyperlipoproteinemias.

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
TBD	TBD	TBD

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	3.21 mL	16.06 mL	32.13 mL
5 mM	0.64 mL	3.21 mL	6.43 mL
10 mM	0.32 mL	1.61 mL	3.21 mL
50 mM	0.06 mL	0.32 mL	0.64 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. Fathi E, Montazersaheb S, Sanaat Z, Nakhband A, Vandghanooni S, Farahzadi R, Vietor I. L-carnitine reduced cellular aging of bone marrow resident C-kit⁺ hematopoietic stem cells through telomere dependent pathways. *Curr Stem Cell Res Ther.* 2022 May 11. doi: 10.2174/1574888X17666220511141123. Epub ahead of print. PMID: 35546751.

2. Lee YG, Chou HC, Chen YT, Tung SY, Ko TL, Buyandelger B, Wen LL, Juan SH. L-Carnitine reduces reactive oxygen species/endoplasmic reticulum stress and maintains mitochondrial function during autophagy-mediated cell apoptosis in perfluorooctanesulfonate-treated renal tubular cells. *Sci Rep.* 2022 Mar 18;12(1):4673. doi: 10.1038/s41598-022-08771-3. PMID: 35304586; PMCID: PMC8933466.

In vivo study

1. Dehghani A, Pourjafari F, Koohkan F, Haghpanh T, Pourjafari F, Sheibani V, Afarinesh MR. L-carnitine attenuates acoustic startle reflex dysfunction in adult male rats exposed to mancozeb. *Toxicol Ind Health.* 2023 Jan 17:7482337231151739. doi: 10.1177/07482337231151739. Epub ahead of print. PMID: 36650049.

2. Chang D, Kong F, Jiang W, Li F, Zhang C, Ding H, Kang Y, Li W, Huang C, Zhou X, Zhang X, Jiao H, Kang Y, Shang X, Zhang B. Effects of L-carnitine Administration on Sperm and Sex Hormone Levels in a Male Wistar Rat Reproductive System Injury Model in a High-Altitude Hypobaric Hypoxic Environment. *Reprod Sci.* 2023 Jan 12. doi: 10.1007/s43032-022-00948-5. Epub ahead of print. PMID: 36633830.

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7. Bioactivity

Biological target:

L-Carnitine tartrate is a Carnitine/ Constituent of striated muscle and liver.

In vitro activity

In the following, cells were treated with LC (L-Carnitine) and at the end of the treatment period, the cells were subjected to the real-time PCR technique along with western blotting assay for measurement of the telomere length and assessment of protein expression, respectively. The results showed that 0.2 mM LC caused the elongation of the telomere length and increased the TERT protein expression.

Reference: Curr Stem Cell Res Ther. 2022 May 11. <https://pubmed.ncbi.nlm.nih.gov/35546751/>

In vivo activity

The present study investigated how L-carnitine affected the acoustic startle response (ASR) in rats exposed to mancozeb. The results showed that locomotor activity and the percentage of prepulse inhibition in the mancozeb groups decreased compared to the sham group while these parameters increased in the L-carnitine group (200 mg/kg) compared to sham rats.

Reference: Toxicol Ind Health. 2023 Jan 17:7482337231151739. <https://pubmed.ncbi.nlm.nih.gov/36650049/>

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.