



LKT Laboratories, Inc.

Acetyl-L-Carnitine

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Product Information

Product ID A0919

CAS No. 3040-38-8

Chemical Name

Synonym ALCAR, Acetylcarnitine

Formula $C_9H_{17}NO_4$

Formula Wt. 203.24

Melting Point 145° (dec)

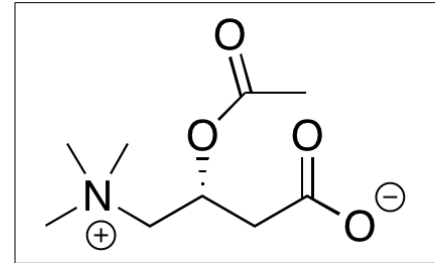
Purity ≥98%

Solubility Soluble in water, ethanol (20 mg/ml), DMF (20 mg/ml), and DMSO (10 mg/ml)

Store Temp Ambient

Ship Temp Ambient

Description Acetyl-L-carnitine is a derivative of carnitine that enables functions of CoA and plays a significant role in the maintenance of energy homeostasis. Acetyl-L-carnitine exhibits antidepressant, neuroprotective, analgesic, and antinociceptive activities. In vivo, acetyl-L-carnitine acetylates p65, inducing NF-κB-mediated upregulation of mGluR2 receptors. In neuron-like PC12 cells, acetyl-L-carnitine inhibits 3-NPA-produced cellular stress responses and neurotoxicity. Acetyl-L-carnitine normalizes brain levels of neurotrophic factors such as NGF, GDNF, and artemin in animal models of neuropathy. Additionally, acetyl-L-carnitine exhibits some degree of antinociceptive benefit through indirect modulation of M1 muscarinic acetylcholine receptors (mAChRs). In cellular models of Alzheimer's disease, this compound stimulates α-secretase activity and metabolism of amyloid precursor protein (APP).



Pricing and Availability

Bulk quantities available upon request

Product ID	Size	List Price
A0919	250 mg	\$50.00
A0919	1 g	\$49.70
A0919	5 g	\$134.40

References Cuccurazzu B, Bortolotto V, Valente MM, et al. Upregulation of mGlu2 receptors via NF-κB p65 acetylation is involved in the Proneurogenic and antidepressant effects of acetyl-L-carnitine. *Neuropsychopharmacology*. 2013 Oct;38(11):2220-30. PMID: 23670591.

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Virmani A, Koverech A, Ali SF, et al. Acetyl-L-Carnitine Modulates TP53 and IL10 Gene Expression Induced by 3-NPA Evoked Toxicity in PC12 Cells. *Curr Neuropharmacol*. 2011 Mar;9(1):195-9. PMID: 21886589.

Vivoli E, Di Cesare Mannelli L, Salvicchi A, et al. Acetyl-L-carnitine increases artemin level and prevents neurotrophic factor alterations during neuropathy. *Neuroscience*. 2010 Jun 2;167(4):1168-74. PMID: 20302919.

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Ghelardini C, Galeotti N, Calvani M, et al. Acetyl-L-carnitine induces muscarinic antinociception in mice and rats. *Neuropharmacology*. 2002 Dec;43(7):1180-7. PMID: 12504925.

Caution: This product is intended for laboratory and research use only. It is not for human or drug use.