# Acetyl L-Carnitine HD



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**Clinical Applications** 

- Helps Support the Generation of Cellular Energy\*
- Supports Mental Energy and Focus\*
- Helps Balance Mood
- Helps Protect Brain and Nervous System\*
- Encourages Proper Neurotransmitter Production\*

Acetyl L-Carnitine HD is a natural component of our brain's chemistry and promotes production of acetylcholine, the most abundant neurotransmitter in the brain. The body makes acetyl L-Carnitine in small amounts, but as we age, levels decline. Carnitine HD is a form of L-carnitine, an amino acid derivative that helps the body produce energy. However, slightly altering the chemical structure of this nutrient (adding the "acetyl" group), helps it work differently in the body to support both brain health and energy production.

All Absolute Health Formulas Meet or Exceed cGMP Quality Standards

# Discussion

Acetyl L-Carnitine HD provides 800 mg of this valuable nutrient per capsule. Acetyl L-carnitine is one of the most extensively researched brain nutrients with a proven ability to enhance mental energy and wellness. Acetyl L-carnitine is a natural component of our brain's chemistry. The body makes it in small amounts, but as we age, acetyl L-carnitine levels decline. For optimal brain function, therefore, supplementation of Carnitine HD may be highly beneficial. The only food source for this nutrient is animal brain, which is not a recommended food. Supplemental Acetyl L-Carnitine HD, on the other hand, is synthetically derived from other amino acids, and is suitable for vegetarians.

Brain Health Acetyl L-Carnitine HD is structurally like acetylcholine and may help facilitate its production and maintenance of optimal levels. Acetylcholine is involved in supporting memory, focus, and learning. It also serves to regulate activities of vital organs and blood vessels, as well as communication between nerves and muscles. Acetyl L-Carnitine HD can help support the repair of cells in the brain and nervous system that have been damaged by stress and poor diet.

Energy Production Acetyl L-Carnitine, (not the acetyl I-carnitine form) is required to help escort fats into the part of the cell where they are burned and converted into energy (the mitochondria), thereby supporting energy production and weight management. Acetyl L-Carnitine HD works differently. Because the unique "acetyl" molecule allows this compound to work differently in the body. Acetyl L-Carnitine may support energy production within brain cells, aiding in mental clarity, focus,

Healthy Moods The neurotransmitter acetylcholine is important for a healthy, balanced mood. Acetyl L-Carnitine HD not only supports a healthy mood by encouraging normal acetylcholine levels, but also by supporting energy production and delivery to brain cells. Energized brain cells communicate better with each other and with the rest of the body, leading to a healthier mood.

Memory and Cognition Studies show that acetyl L-carnitine slows or prevents age related decline in mental function. 1.5 g/day of acetyl L-carnitine given to 236 older adults for forty-five days significantly increased the effectiveness of performance on all the measures of cognitive functioning, memory performance, and constructional thinking.<sup>2</sup> Twenty adults given 1.5 g of acetyl L-carnitine experienced reversal of many of the signs of brain aging.3 Alcoholics with cognitive impairment have also benefited from acetyl L-carnitine supplementation. Acetyl L-carnitine supplementation has welldocumented neuroprotective effects and has been shown to maintain or increase acetylcholine levels in brain, which supports neuroplasticity and reduces brain inflammation.5 Acetylcholine is a neurotransmitter crucial for learning and memory.

Depression Acetyl L-carnitine is one of the most valuable compounds for relieving depression naturally.<sup>6,7</sup> It does so through increasing the energy of brain cells. Energy allows brain cells to communicate better, and a social brain is a happier brain. Acetyl L-Carnitine also increases levels of compounds such as acetylcholine, which is essential for healthy mood levels. A review of human, animal and cellular models suggests acetyl L-carnitine is effective at improving depressive symptoms and supports neuroplasticity. 6 A meta-analysis indicates acetyl L-carnitine supplementation significantly decreased depressives symptoms compared to placebo or no intervention and has fewer side effects than antidepressant medications.7

Alzheimer's Disease A total of over 600 patients with Alzheimer's have been studied in over twenty years of research, confirming that acetyl L-carnitine benefits Alzheimer's patients. 8-10 Thirty Alzheimer's patients given Acetyl L-Carnitine HD for 6 months saw dramatically less mental deterioration. 11 One year treatment with Acetyl L-Carnitine HD in 130 patients with Alzheimer's also led to a slower rate of mental decline in 13 of the 14 outcome measures. 12 Acetyl L-Carnitine HD may also benefit the management of Parkinson's disease. 13 In rat studies, acetyl L-carnitine has also been shown to improve age-related memory and learning impairments by activating synaptic function, and reducing cognitive deficits. 14

Immune Enhancement Acetyl L-Carnitine HD has also been found to be a powerful immune enhancer. This is due to its ability to promote the health of the nervous system, which in turn governs the activity of the immune system. Acetyl L-Carnitine HD may offer specific benefits to HIV patients <sup>15,16</sup> and those with tuberculosis. <sup>17</sup>



# **Supplement Facts**

Serving Size 1 capsule

Amount Per Serving % Daily Value

Acetyl L-Carnitine HCI 800 mg \*

\*Daily Value not established.

**Other Ingredients:** Cellulose (capsule), stearates (vegetable source), silicon dioxide.

#### **Directions**

As a dietary supplement, take one capsule per day, or as directed by your healthcare practitioner.

#### Caution

If you are pregnant or nursing, have epilepsy or manic depression, consult your physician before taking this product

## **Does Not Contain**

Gluten, corn, yeast, artificial colors, and flavors.

## References

- 1. Dowson JH, Wilton-Cox H, Cairns MR, Ramacci MT. The morphology of lipopigment in rat Purkinje neurons after chronic acetyl-L-carnitine administration: a reduction in aging-related changes. Biol Psychiatry 1992; 32:179-87.
- 2. Cipolli C, Chiari G. [Effects of L-acetylcarnitine on mental deterioration in the aged: initial results]. Clin Ter 1990; 132:479-510.
- 3. Guarnaschelli C, Fugazza G, Pistarini C. Pathological brain ageing: evaluation of the efficacy of a pharmacological aid. Drugs Exp Clin Res 1988; 14:715-8.
- 4. Tempesta E, Troncon R, Janiri L, et al. Role of acetyl-L-carnitine in the treatment of cognitive deficit in chronic alcoholism. Int J Clin Pharmacol Res 1990: 10:101-7
- Ferreira, G. C., & McKenna, M. C. (2017). L-Carnitine and Acetyl-L-carnitine Roles and Neuroprotection in Developing Brain. Neurochemical research, <sup>4</sup>2(6), 1661–1675. doi:10.1007/s11064-017-2288-7 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5621476/
- Wang, S.-M., Han, C., Lee, S.-J., Patkar, A. A., Masand, P. S., & Pae, C.-U. (2014). A review of current evidence for acetyl-carnitine in the treatment of depression. Journal of Psychiatric Research, 53, 30–37. doi: 10.1016/j.jpsychires.2014.02.005 https://www.ncbi.nlm.nih.gov/pubmed/24607292
- Veronese, N., Stubbs, B., Solmi, M., Ajnakina, O., Carvalho, A. F., & Maggi, S. (2018). Acetyl-L-Carnitine Supplementation and the Treatment of Depressive Symptoms. Psychosomatic Medicine, 80(2), 154–159. doi:10.1097/psy.0000000000000537 https://www.ncbi.nlm.nih.gov/pubmed/29076953
- 8. Brooks JO, 3rd, Yesavage JA, Carta A, Bravi D. Acetyl L-carnitine slows decline in younger patients with Alzheimer's disease: a reanalysis of a double-blind, placebo-controlled study using the trilinear approach. Int Psychogeriatr 1998; 10:193-203.
- 9. Rai G, Wright G, Scott L, Beston B, Rest J, Exton-Smith AN. Double-blind, placebo controlled study of acetyl-l-carnitine in patients with Alzheimer's dementia. Curr Med Res Opin 1990; 11:638-47.
- Thal LJ, Carta A, Clarke WR, et al. A 1-year multicenter placebo-controlled study of acetyl-L-carnitine in patients with Alzheimer's disease. Neurology 1996; 47:705-11.
- 11. Sano M, Bell K, Cote L, et al. Double-blind parallel design pilot study of acetyl levocarnitine in patients with Alzheimer's disease. Arch Neurol 1992; 49:1137-41.
- 12. Spagnoli A, Lucca U, Menasce G, et al. Long-term acetyl-L-carnitine treatment in Alzheimer's disease. Neurology 1991; 41:1726-32.
- 13. Puca FM, Genco S, Specchio LM, et al. Clinical pharmacodynamics of acetyl-L-carnitine in patients with Parkinson's disease. Int J Clin Pharmacol Res 1990; 10:139-43.
- Kobayashi, S., Iwamoto, M., Kon, K., Waki, H., Ando, S., & Tanaka, Y. (2010). Acetyl-l-carnitine improves aged brain function. Geriatrics & Gerontology International, 10, S99–S106. doi:10.1111/j.1447-0594.2010.00595.x https://www.ncbi.nlm.nih.gov/pubmed/20590847
- 15. Famularo G, Moretti S, Marcellini S, et al. Acetyl-carnitine deficiency in AIDS patients with neurotoxicity on treatment with antiretroviral nucleoside analogues. Aids 1997; 11:185-90.
- 16. Scarpini E, Sacilotto G, Baron P, Cusini M, Scarlato G. Effect of acetyl-L-carnitine in the treatment of painful peripheral neuropathies in HIV+ patients. J Peripher Nerv Syst 1997; 2:250-2.
- Agarwal A, Sengupta P, Durairajanayagam D. Role of L-carnitine in female infertility. Reprod Biol Endocrinol. 2018 Jan 26;16(1):5. doi:10.1186/s12958-018-0323-4. PubMed PMID: 29373970; PubMed Central PMCID: PMC5785901. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5785901/