

# L-CARNOSINE

## What is L-CARNOSINE?

L-Carnosine, not to be confused with the amino acid L-Carnitine, is a proton buffering neuropeptide consisting of alanine and histidine. It is found in the brain, innervated tissues, lens of the eye and skeletal muscle tissue. L-Carnosine has powerful antioxidant, anti-glycating, aldehyde quenching and heavy metal chelating actions. Many diseases associated with aging are the result of excessive accumulation of glycated structures. L-Carnosine reacts with and inactivates aldehydes and ketones, reducing protein glycosylation and the formation of AGEs (Advance Glycosylation End-products). It is recognized as a highly effective anti-aging nutrient. L-Carnosine declines with age; stress and trauma also cause a reduction in carnosine levels. \*

## What are the benefits?

It has been demonstrated that L-Carnosine can have beneficial effects on atherosclerosis, joint inflammation, cataract formation and aging in general. It plays a part in neurotransmission, it is a heavy metal binder and modulates enzymatic activities. It has wound healing properties and protection against radiation damage. It also has anti-neoplastic properties, which make it a potentially beneficial agent for use in cancer prevention. It may reduce gastric ulceration, particularly related to stress, both by preventing the formation of the ulcer and by healing it. Studies have shown that treatment with L-Carnosine reduces or completely prevents cell damage caused by beta amyloid, the substance found in the brain of Alzheimer's patients. \*

## Supplement Recommendation:

Look for a product that is a pharmaceutical grade L-Carnosine without fillers, binders or common allergens; preferably in a vegetarian capsule.

- **Heavy metal detoxifier\***
- **Powerful antioxidant with free radicals and scavenging activities\***
- **Controls aging and its related pathologies\***
- **Rejuvenates human cells\***
- **Helps in tissue repair\***
- **Helps prevent cross-linking of collagen and other proteins of skin\***
- **Increases physical performance\***
- **Protects against muscular fatigue\***

### Supporting Research:

Boldyrev AA, Gallant SC, Suhklich GT. Carnosine, the protective, anti-aging peptide. *Biosci Rep*, 1999; 19 (6): 581-587

Gariballa SE, Sinclair AJ. Carnosine: physiological properties and therapeutic potential. *Age and Aging*, 2000; 29: 207-210

Hipkiss AR, Brownson C. A possible new role for the anti-aging peptide carnosine. *Cell Mol Life Sci*, 2000; 57 (5): 747-53

Ilipkiss A. Carnosine – a protective, anti-aging peptide? *Int J Biochem Cell Biol*. 1998; 30: 863-868

McFarland GA, Holliday R. Retardation of the senescence of cultured human diploid fibroblasts by carnosine. *Exp Cell Res*, 1994; 212 (2): 167-175

McFarland GA, Holliday R. Further evidence for the rejuvenating effect of the dipeptide L-Carnosine on cultured human diploid fibroblast. *Exp Gerontol* 1999; 34(1):35-45

Nagai K, et al. Effects of L-carnosine on blood cells and biomembrane. *Nippon Seirigaku Zasshi*, 1990; 52(10): 339-344

Quinn PL, Boldyrev AA, Formaziuk VH. Carnosine: its properties, functions and potential therapeutic applications. *Mol Aspects Med*; 1992; 13(5):379-444

\* This information has not been evaluated by the FDA. It is not intended to diagnose, treat, cure or prevent any disease.