

# NEI TO AGING

## SUPERFAMILY OF 87 PROTEINS

### GOVERNS CELL AND TISSUE REPAIR

BY DR ENG HUU, DO

**E**vidence suggests that premature human aging results from the individual's neuro-endocrine-immune (NEI) system reacting to a stressful environment. Mood, memory and focus are functions of the neurological system. When the nervous system weakens, it negatively affects many areas of the body. An individual becomes insulin-resistant, muscle loses tone and the body starts to take on an apple shape. Cholesterol, triglycerides and blood pressure increase; fatigue sets in; sleep becomes restless.

The hormonal or endocrine system controls everything from metabolic function to the repair and regeneration cycles of cells.

As we age, hormonal levels change and the ability to repair and regenerate is reduced.

The purpose of the immune system is to keep infectious bacteria, viruses and fungi out and destroy microorganisms that attempt to invade the body. The immune system engulfs and destroys genetically damaged cells. Impaired immune performance causes the body to fall prey to serious infections, injury and disease. With premature aging, the immune system becomes less effective and the body cannot rid itself of toxins. It takes longer to recover from illnesses and we become vulnerable to disease.

#### REPAIR AND REBUILD YOUTH

The NEI complex's ability to reduce, repair and rebuild—conditions necessary to youth—will be destroyed without chemicals that cause them to regenerate. The future of nutritional science lies in supplements that address major body systems simultaneously.

LimuZ, an effervescent powder that can be mixed with a cup of water, delivers vitamin C with first-milking colostrum, Limu, zeolite and acetyl-L-carnitine for a direct effect on the neuro-endocrine-immune axis.

HL RECOMMENDED



#### NEI TO SENILITY

Premature aging can be slowed with supplements containing the insulin-like growth factor-1 (IGF-1) super family of protein-based peptides. These tiny hormone-like substances are part of a superfamily of 87 proteins that govern cell and tissue repair. First milk contains the entire IGF-1 superfamily and delivers them intact into the bloodstream thanks to chaperone compounds that limit their breakdown in the digestive system. This facilitates their passage intact into the bloodstream. The most important components of colostrum can be broken down into two major categories: immune system factors and growth factors. Drug manufacturers have

tried to copy (genetically engineer) and market several of the individual components of colostrum, most notably interferon, gamma globulin, growth hormone, IGF-1 and protease inhibitors. Biotechnology companies are currently selling IGF-1 for as much as \$800 per 50 cc vial.

First milk given to 100 elderly people for three months as a daily dietary supplement had an anti-aging effect, reports *Acta Nutrimenta Sinica* [Ying Yang xue Bao]. The results showed first milk could raise the activity of total superoxide dismutase (SOD) and magnesium-SOD, master antioxidants against the superoxide free radical. Phagocytosis percentages of white blood cells increased and senility symptoms such as fatigue, backache, lumbago and insomnia were corrected.

#### ONE HUNDRED YEARS LIFE WITHOUT CANCER

There is an island off the coast of Okinawa called Hachi Jo, known as the *Island of Longevity*. This island has a reputation of producing a disproportional number of centenarians—people who live over 100 years of age. In fact, the residents are rarely stricken with modern diseases such as cancer, irregular blood pressure, strokes, cardiac infarction or Alzheimer's disease. Curious health-minded researchers questioned their superior



longevity, vigor, disease resistance and overall bodily strength and stature. The relative longevity and health was attributed to their consumption of Limu. Recent studies credit continuous consumption of seaweed (Limu) in providing the people of Hachi Jo with a distinct advantage over the rest of the world's populations. Limu has been labeled "one of the most important marine medicinal foodstuffs...to prevent obesity and diabetes." One active component is alginic acid and another fucoidan, an anti-inflammatory with antioxidant action that blocks buildup of beta-amyloid protein (A beta) in the brain. Beta-amyloid concentrates in the brains of Alzheimer's patients. LimuZ has 40 pounds of

Limu (*Laminaria japonica*) condensed down to one pound, a 40:1 ratio to give the highest concentration available. The content of fucoidan is between 2.5 and 4%. The concentration level of fucoidan extract in LimuZ is over 90%.

#### PROTECT BRAIN TISSUE

Originating as volcanic rock with a complex unique structure of a crystalline honeycomb that has the power to trap and remove heavy metals, zeolite, specifically Clinoptilolite, is only one of the few minerals in nature that is negatively charged. It attracts toxic metals then captures and cages them in its honeycomb structure.

Oxidative stress is considered a possible molecular mechanism involved in lead neurotoxicity, especially in developing fetuses. Three-week old developing Swiss mice given zeolite experienced lowered free radical and higher catalase, SOD and glutathione-based enzyme activities in their brains. The protection of brain tissue against lead-induced toxicity by clinoptilolite and EDTA "might be due to their ability to react faster with peroxy radicals thereby reducing the severity of...oxidative damage. Thus, the results of present study indicate the neuroprotective potential of clinoptilolite and EDTA."

### NERVE GROWTH

Acetyl-L-carnitine (ALC) increases the levels and utilization of nerve growth factor (NGF) in old rats. The stimulation of NGF levels can be attained when ALC is given either for long or short periods. Long-term use of ALC completely prevents the loss of acetylcholine activity in aged rats "suggesting that ALC may rescue cholinergic pathways from age-associated degeneration."

Dementia is a common mental health problem. Work on the effects of ALC has been ongoing since the 1980s. Data shows ALC leads to restored nerve fiber numbers and regenerating nerve fiber clusters. Nerve vibration perception notably increased favorably.

### PULL ISOTONIC INTO BLOOD

LimuZ with the antioxidant acai can be put into any liquid and is absorbable into the bloodstream because of the isotonic technology. It has the same level of electrolytic balance as our blood so it is pulled into your system. ■

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#### REFERENCES

- Basha MP, Begum S, Mir BA. Neuroprotective Actions of Clinoptilolite and Ethylenediaminetetraacetic Acid Against Lead-induced Toxicity in Mice *Mus Musculus*. *Toxicol Int*. 2013 Sept;20(3):201-207. doi: 10.4103/0971-6580.121666.
- Choi JS, Moon WS, Choi JN, Do KH, Moon SH, Cho KK, Han CJ, Choi IS. Effects of seaweed *Laminaria japonica* extracts on skin moisturizing activity in vivo. *J Cosmet Sci*. 2013 May-June;64(3):193-205.
- Hudson S, Tabet N. Acetyl-L-carnitine for dementia. *Cochrane Database Syst Rev*. 2003;(2):CD003158.
- Jhamandas JH, Wie MB, Harris K, MacTavish D, Kar S. Fucoidan inhibits cellular and neurotoxic effects of beta-amyloid (A $\beta$ ) in rat cholinergic basal forebrain neurons. *Eur J Neurosci*. 2005 May;21(10):2649-2659.
- Shirosaki M, Koyama T. *Laminaria japonica* as a food for the prevention of obesity and diabetes. *Adv Food Nutr Res*. 2011;64:199-212. doi: 10.1016/B978-0-12-387669-0.00015-6.
- Sima AA, Calvani M, Mehra M, Amato A; Acetyl-L-Carnitine Study Group. Acetyl-L-carnitine improves pain, nerve regeneration, and vibratory perception in patients with chronic diabetic neuropathy: an analysis of two randomized placebo-controlled trials. *Diabetes Care*. 2005 Jan;28(1):89-94.
- Tagliatalata G, Navarra D, Cruciani R, Parnacci MT, Alemà GS, Angelucci L. Acetyl-L-carnitine treatment increases nerve growth factor levels and choline acetyltransferase activity in the central nervous system of aged rats. *Exp Gerontol*. 1994 Jan-Feb;29(1):55-66.
- Zhihui Z, Kuixiong S, Bixia P, Lunan S, Xiuxian X, Hong H, Department of Clinical Nutrition, Shanghai Second Medical University. Shanghai;China(200025) [Ying Yang xue Bao *Acta Nutrimenta Sinica* (1994, 16(2):169-173] Type: (lang: chi)

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