



HEALTHY AGEING

IMPROVED PHYSICAL STRENGTH, ENDURANCE AND RECOVERY

Even healthy people may need amino acid supplementation

Sarcopenia or muscle loss is a common condition among elderly. 25% of adults over 65, and as many as 50% of adults over 80 may suffer from sarcopenia.

This leads to loss of muscle mass and function, and results in higher incidence of falls and fractures, lower mobility, lower quality of life and higher morbidity. Older people have increased needs for proteins (or amino acids), but they tend to consume less than the young. This can have serious consequences for their muscle regeneration.

Sarcopenia is to a large extent a result of poor nutrition (low in proteins), but also reduced functioning of the digestive system with the result that the body develops an amino acid deficit. This again limits the body's ability to regenerate muscle mass.

Protein supplements are frequently prescribed, but these need to be digested to be useful to the body. AMIZATE® is unique in providing all the amino acids in readily usable form and in the right proportions for the human body. These effects combine to make AMIZATE® rapidly effective.

AMIZATE® contains the full range of free amino acids required for regeneration of muscles in the human body. And due to the fact that AMIZATE® originates from marine species, it has the right amino acid profile for human protein synthesis.

Some of the amino acids in AMIZATE® are in the form of short peptides which are larger building blocks for proteins, allowing even more efficient regeneration of proteins in the body.



AMIZATE® is manufactured at Zymtech's production facility in Norway utilizing a proprietary enzymatic process which extracts amino acids, short peptides, and micronutrients from natural, fresh and pure marine sources. Around 60% of the amino acids are in free form with the remaining amino acids bound in short peptides.

AMIZATE® is unique in that it utilizes the whole fish in its process. This means that proteins found in all parts of the fish (skin collagen, muscle protein, etc.) contribute to AMIZATE®'s full spectrum of amino acids.

Furthermore, the enzymes found in the fish itself are key to the natural processing of this unique product, creating the same amino acids and short peptides that are the building blocks of all new protein in the human body.

This makes AMIZATE® a unique nutritional supplement made with natural raw materials in all natural process.





AMIZATE® builds healthy muscle mass



Physical endurance requires amino acids and short peptides, since strenuous exercise significantly depletes amino acids in the body. Physical stress causes damage to muscle tissue. Replenishing amino acids and short peptides extends high levels of physical intensity.

AMIZATE® as a daily supplement can deliver

- Increased lean muscle mass
- Increased strength
- Increased endurance
- Increased aerobic capacity
- Decreased body fat

AMIZATE® is a nutritional breakthrough in that it supplies all essential and non-essential amino acids needed for muscle repair.

AMIZATE®'s short peptides deliver amino acids more quickly than undigested protein and are more bio-available.

Amino acids in AMIZATE® are quickly absorbed into the blood stream and no energy is expended on digestion.

Even healthy people may need amino acid supplementation

Because stress, age, infection, and various other factors including the amount of exercise a person does, can also affect the levels of amino acids, people with healthy, nutritious diets could also find that they also suffer amino acid deficiencies.

(J. Nutr. 136: 295S–298S, 2006 and J. Nutr. 135: 1596S–1601S, 2005)

Amino acid deficit

Amino acids are described as essential or non-essential. The non-essential ones can be synthesized in the body, but the essential amino acids are those which must be present in the diet (phenylalanine, valine, tryptophan, threonine, lysine, leucine, isoleucine, and methionine). If any one of these amino acids is missing from the diet then proteins which include this essential component cannot be synthesized. Consequently many other amino acids cannot then be used; they are broken down (deaminated) and the nitrogen is excreted as urea and creatinine, leading to a negative nitrogen balance, as more nitrogen is excreted than is taken in as dietary protein.

(Effect of amino acid mixture on the isolated ischemic heart (Am J Cardiol. 2004 Apr 22;93(8A):30A-34A)

Amino acid intake

Studies have shown that amino acids which are still bound in their protein have much less effect on plasma levels of amino acids.

Protein hydrolysates are absorbed more rapidly than even free form amino acids and much more rapidly than intact proteins.

(Journal of sports science and medicine (2004) 3, 60-63; Anssi H. Manninen; and J Nutr. 2008 Oct;138(10):1996S-2002S)

Zymtech Production AS has conducted a clinical trial on underweight/malnourished children. It ran over 120 days (April through July 2009) and was conducted at 6 government schools in New Delhi (Ghaziabad). A total of 438 schoolchildren of 6-8 years of age with mild to moderate malnutrition participated. The study followed recognized international standards (ICH).

The significantly higher gain in weight, height, Body Mass Index (BMI), speed, and muscular endurance proved that AMIZATE® was more effective than the placebo control. Furthermore it was concluded that AMIZATE® is completely safe to consume. There were no adverse events reported during the study period.

For more info: www.zymtech.no



ZYMTECH PRODUCTION AS - The manufacturer of - AMIZATE®