



MAP® – Master Amino Acid Pattern®

Eight essential amino acids for a protein diet
Dietary nutrient

... a protein revolution

MAP® is a pure foodstuff and has a 100% pure, free crystalline amino acid content.

MAP® is developed from pulses (GM-free; non-gene-modified) and does not contain any additives or doping substances. It is not a drug and does not have any contraindications.

MAP® provides an optimal ratio of the eight essential amino acids L-Leucine, L-Valine, L-Isoleucine, L-Lysine, L-Phenylalanine, L-Threonine, L-Methionine and L-Tryptophan for the human dietary pattern.

MAP® achieves 99 % Net Nitrogen Utilization [NNU*].

As a consequence, MAP® forms just 1% nitrogen toxins (ammonia, urea).

MAP® is almost completely calorie free (just 0.4 kcal in 10 pellets). It introduces the same amount of actually anabolic utilisable amino acids to the body as 350g meat, fish or poultry.

MAP® is completely reabsorbed in the small intestine within 23 minutes. It is already split and does not require any proteolytic enzymes. The transition period of usual nutritional proteins into the body takes 5 to 13 times longer.

MAP® does not leave behind any digestive end products.

* NNU = Net Nitrogen Utilization = Protein nutritional value

Master Amino Acid Pattern – MAP® – is a patented amino acid formula for protein nutrition with a unique and perfectly balanced amino acid profile in accordance with the specific human pattern. All living organisms, including humans, have a characteristic amino acid pattern – known as the “Master Amino Acid Pattern.” MAP® provides the eight essential amino acids in a unique ratio for human nutrition. This is how MAP® enables a Net Nitrogen Utilization of 99% NNU*. This means almost all amino acids can be used for the protein synthesis and therefore for the cell build up (anabolic) of the body. Consequently, just 1% are catabolic and metabolise into nitrogen toxins (nitrogen waste) – compared with soya protein: anabolic 17%, catabolic 83% (see graph).

Our organism is only able to build up the body's own protein optimally when the eight essential amino acids are available in the correct ratio to each other simultaneously. In all other cases, the NNU* value decreases and the burden of nitrogen toxins (ammonia, urea) increases.

According to the study of Prof. Dr. Lucà-Moretti at the INRC (International Nutrition Research Center), MAP® supplies the highest protein nutritional value worldwide. It also has the lowest amount of nitrogen waste. For this reason MAP® is also particularly suitable for medical purposes.

MAP® can be used in the following areas:

- A protein supply for people, who have a particular physiological condition, such as older people, pregnant women and breastfeeding mothers, adolescents
- Sport or other physical exertion, also due to work
- Prevention of stress and other burdens
- Vegetarian or vegan lifestyles
- Specific dietary nutrition programmes (weight reduction/weight gain)
- A supplement in cases of intolerance or restricted absorption and utilisation of food protein
- Improvement of protein supply with simultaneous relief of the organism in case of illness, malfunction or health cures, etc.
- Protein deficiency due to various reasons in accordance with a doctor or medical practitioner
- Building up of lean body and tissue substance in cases of emaciation, accident rehabilitation, etc.
- Strengthening and tightening of skin and body tissue
- Maximisation of the production of the body's own protein
- Maximisation of muscle strength, muscle density, muscle volume
- Maximisation of endurance performance
- Conversion of body fat into muscles based on physical activity
- Quicker recovery following physical activity and stress (= Nr. 1 protein killer)

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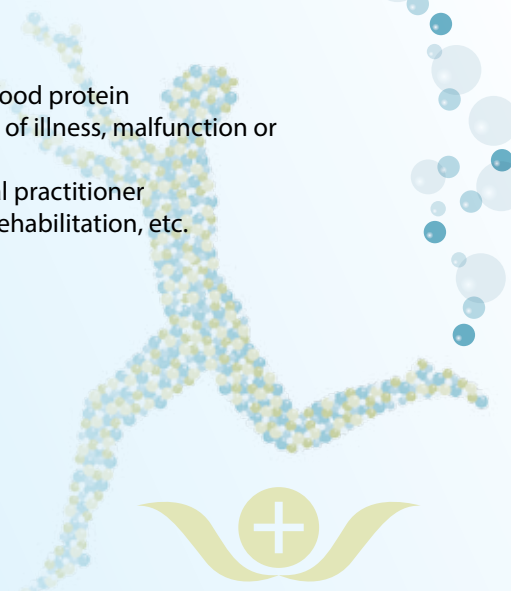
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... for balanced health

General information about amino acids

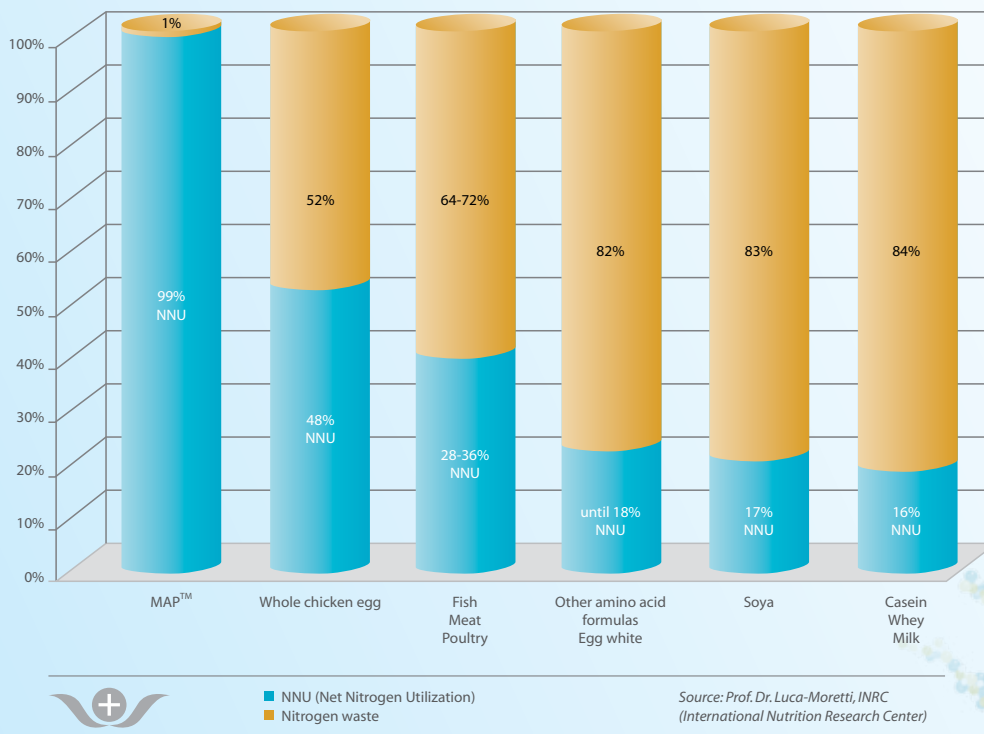
Almost all vital substances which our body requires are converted from various amino acids into peptides or protein. Amino acids are the elementary building blocks of life. They are transported via the blood to the parts of the body where they are transformed and incorporated into the body's own protein (organ tissue such as skin, muscular apparatus, liver cells, enzymes, etc.). Amino acids also form the basis for hormones (e.g. insulin, glucagon) or neurohormones (serotonin, melatonin). In the same way for scleroproteins (collagen, elastin, keratin) as well as structural protein (actin, myosin) and plasma protein (globulin) or transport proteins such as albumin and haemoglobin. Furthermore, they are important for the production of male and female hormones and the maintenance of a healthy libido.

In addition, they form the basis for our immune system (antibodies, blood clotting factors). Proteins are also required as reserve substances for the energy supply in case of hunger. Above all, the body regenerates them from the muscular apparatus, the spleen and the liver. It is mostly these organs that they are adducted in times of hunger – and also in the case of false diets or fasting cures – with the help of gluconeogenesis (generation of glucose) for the energy supply. Every day the organism produces between 80,000 and 120,000 different enzyme connections by stringing together different amino acid molecules and “converting” them into molecular chains in body protein.

Our modern form of nutrition and our stress-related way of life do not always guarantee that we receive and/or make use of all essential amino acids in sufficient quantities. Protein requirements are seriously underestimated. With increasing age or in times of stress or illness the absorbability of the body sinks (decrease in digestive and detoxification power, protein utilization malfunctions).

Due to the exceptional importance of amino acids for nutrition our organism has a built in **protein hierarchy**, i.e. a position of priority in protein nutrition. The result is that we are “full” when we have taken on sufficient protein. If we only eat inferior protein, we take on more calories than we can burn off in order to satisfy our “protein hunger”. The result is that we become fat. **MAP®** supplies us with sufficient amounts of high quality protein via the eight essential amino acids without loading ourselves with nitrogen toxins. This means that our feeling of hunger disappears while our kidneys and liver are unburdened. As **MAP®** does not create any digestive end products, it results in the relief of the digestive system and also the cardiovascular system.

Ratio of Net Nitrogen Utilization (NNU) to nitrogen waste from protein food



Recommendation

MAP® is recommended for additional nutrition for athletes, children, youths, seniors and adults as a protein supplement or even as a complete replacement during a diet. **MAP®** is highly recommended during pregnancy and the lactation period and can be taken safely. **MAP®** is especially recommended for older people when the usual intake of protein via meals is insufficient due to allergy, organic, psychological and time reasons or due to other causes. The dose varies for each individual and depends on sex, age, size, weight and performance requirements. Top-level athletes, pregnant women/breast feeding mothers, people suffering from stress or who are ill have a much higher protein requirement.

Further details are available in the leaflet “**Basic knowledge protein.**” Our **special info sheets** about **MAP®** for older people, pregnant women/breast feeding mothers, vegetarians/vegans, managers/people suffering from stress, athletes, for weight reduction and medical use are available at www.map-protein.com under “downloads”.