

MAP (tm) - (Master Amino Acid Pattern)

Developed by the International Nutrition Research Center (INRC)

The International Nutrition Research Center (INRC) is pleased to introduce the Master Amino Acid Pattern (MAP). MAP is recommended in the dietary management of infants, adolescents, adults and the elderly with inadequate dietary protein intake or absorption, due to physiological, psychological or social-economic causes.

Inadequate dietary protein intake or absorption can be induced or aggravated by causes such as:

- \* Lack of appetite;
- \* Infectious diseases, which can increase the body's protein breakdown and cause other metabolic alterations;
- \* Chronic degenerative diseases;
- \* Gastrointestinal disorders, which can limit the absorption of nutrients, and cause discomfort during digestion which, in turn, may reduce food intake;
- \* Neuropsychiatric factors, which can cause anorexia;
- \* Social-economic factors, which can cause insufficient food intake.

MAP, in comparison to any dietary supplement or amino acid formula, provides a healthier, faster and more effective nutritional support, to reverse or minimize the following life threatening effects of inadequate protein intake or absorption:

- \* Immune impairment, which can increase susceptibility to infectious diseases. These, in turn, can cause or aggravate malnutrition as a result of many metabolic alterations;
- \* Anemia due to insufficient erythropoiesis, caused by a deficiency of Iron, Protein, Vitamin B12, Folic Acid, Vitamin C. or Copper. Anemia is common among children and the elderly. It is estimated that more than 35% of the children and the elderly population experiences anemia. Among the most common symptoms of anemia are shortness of breath and fatigue;
- \* Decreased lean body mass, namely the living cells mass that comprises muscles, organs, skeleton, antibodies, enzymes, etc. As a result, when lean body mass decreases, body movements, including breathing, can be seriously limited;
- \* Increased fat body mass. Overweight, the most common form of malnutrition in the USA can cause or aggravate health disorders such as: cardiovascular diseases, hypertension, and shortness of breath, fatigue, or orthopedic afflictions.

For the previous reasons, the use of MAP is recommended in the dietary management of infants, adolescents, adults, and the elderly with inadequate protein intake or absorption due to physiological psychological, or social-economic causes.

Map IS A PATENTED (**U.S. Patent 5,132,113**), 100% natural dietary supplement that provides a unique pattern of essential (indispensable for life) amino acids, in a highly purified, free, crystalline form.

**MAP, in a dose of 10 grams (g), provides the following essential acids profile:**

L-Isoleucine	g 1.483
L-Leucine	g 1.964
L-Valine	g 1.657
L-Lysine	g 1.429
L-Methionine	g 0.699
L-Phenylalanine	g 1.289
L-Threonine	g 1.111
L-Tryptophane	g 0.368

MAP's unique characteristics

MAP's superiority is based on its amino acid pattern. MAP's components, proportions, homogeneity and extremely high purity, enable it to provide an unprecedented nutritional effectiveness.

To better understand why a minimal change in an amino acid pattern can be significant, it should be considered that a bird, snake, tree, elephant or human being are composed of amino acids. However, each one of them is different, in accordance to its own amino acid pattern.

MAP provides a 99% net nitrogen utilization (NNU)

MAP's unique amino acids profile provides an unprecedented 99% Net Nitrogen Utilization. The NNU represents a protein's nutritional value, which is the percentage of its constituent amino acids that act as precursors of the body's protein synthesis, namely as "building blocks."

To illustrate: when a dietary protein is digested, it releases its constituent amino acids into the small intestine, where they are absorbed. Then, those amino acids can follow either the anabolic pathway (build-up) or the catabolic pathway (breakdown). When dietary amino acids follow the catabolic pathway, they act only as a source of energy and not as building blocks. Throughout the catabolic pathway, amino acids release unwanted nitrogen catabolites.

Therefore, the fact the MAP provides an unprecedented 99% NNU means that the 99% of its constituent amino acids act as precursors, namely as "building blocks" of the body's protein synthesis. As a result, MAP provides the highest NNU among any dietary protein or amino acid formula.

\* Dietary proteins provide between 16% (casein) and 48% NNU (hen egg), namely, between 51% and 83% less than that provided by MAP. Therefore, 10 tablets (10 grams) of MAP can provide a body's protein synthesis equivalent to that provided by approximately 12.5 Oz (350g) of fish, poultry or meat.

\* Dietary supplements, which commonly use as a protein source casein, whey or soybean, provide an average of 17% NNU, which is 82% less than that provided by MAP. Therefore, one or two tablets of MAP can provide the body's protein synthesis equivalent to that provided by 8 liquid ounces of any available dietary supplement.

\* Any amino acid formula, other than MAP, can only provide up to 18% NNU; otherwise it would be infringing on MAP's patents. This is at least 81% NNU less than that provided by MAP. Therefore, one table (1g) of MAP can provide a body's protein syntheses equivalent to that provided by at least 5g of any available amino acid formula.

#### MAP releases only 1% of nitrogen catabolites

MAP, due to its extremely high NNU, releases only 1% of nitrogen catabolites (metabolic waste), namely the lowest released by any dietary protein or amino acid formula. By comparison:

\* Dietary proteins release between 52% and 84% of nitrogen catabolites, which is between 51% and 83% more than that released by MAP.

\* Dietary supplements, which commonly use casein, whey or soybean as a protein source, release an average of 83% nitrogen catabolites, which is 82% more than that released by MAP.

\* Any amino acid formula, other than MAP, releases at least 82% of nitrogen catabolites, which is 81% more than that released by MAP.

As a result, the use of MAP is especially recommended in the dietary management of those individuals with renal or hepatic failure, who must avoid nitrogen catabolites.

#### MAP releases an insignificant amount of energy

Due to its extremely high NNU, 10 tablets (10 g) of MAP release an insignificant amount of energy (0.4 Kcal). Providing, at the same time, a body's protein synthesis equivalent to that provided by approximately 12.5 OZ (350 g) of meat, fish or poultry. By using MAP in substitution of dietary proteins, the daily protein requirement can be easily and effectively achieved with essentially no calories. Due to this characteristic, the use of MAP can provide a healthier, faster, and more effective overweight control.

#### MAP is predigested

Since MAP is predigested, it can be absorbed in the small intestine in about 23 minutes. This is far less time than the three or four hours necessary to digest dietary proteins. MAP induces a minimal stimulation of intestinal secretions, acting as a completely catabolized dietary protein, which is absorbed without the aid of peptidases (enzymes). By using MAP, the overloading of digestive functions can be avoided. For this reason, the use of MAP is especially recommended in the dietary management of those individuals with gastrointestinal disorders, or who have had a gastrectomy.

#### MAP is 100% sodium free

When dietary sodium restriction is required, unwanted sodium can be avoided by using MAP, in substitution of dietary proteins. The use of MAP is recommended in the dietary management of those individuals to whom dietary sodium intake has been restricted.

### MAP is 100% fat free

When dietary fat restriction is required, unwanted fat can be avoided by using MAP in substitution of dietary proteins. The use of MAP is recommended in the dietary management of those individuals to whom dietary saturated, monounsaturated, or polyunsaturated fatty acids (fat) intake has been restricted.

### MAP is not a medicine

MAP is a dietary supplement and not a medicine. The use of MAP does not have any contraindication and, so far, no side effects have ever been reported. Everyone who is not able to reach the daily protein requirement, regardless of age, gender or health status, can safely use MAP.

MAP contains no yeast, gluten, sugar, soy, corn, wheat, milk products or preservatives.

For all of previous reasons, MAP, in comparison to any other protein supplement or amino acid formula, can provide a healthier, faster and more effective nutritional support.

### MAP and the aging process

So far, many health anomalies associate with the aging process have been misunderstood as its "natural" consequences. Malnutrition is, perhaps, the most severe among the causes of these anomalies.

Malnutrition, which is inadequate (in quantity or quality) nutrition, is common during the third age (50-75 years). In the average 70-year-old individual, the lean body mass - the living cell mass that comprises muscles, organs, skeleton, antibodies, enzymes, etc. - usually decreases up to 25%. During the same period, fat body mass usually increases up to 100%. As a result, during the third age, it is common to see a decreased lean body mass associated with an increased fat body mass.

Malnutrition can be induced or aggravated during the third age, by causes such as:

- \* A decreased sense of taste and smell, which can reduce appetite;
- \* Problems of dentition, which can decrease eating capabilities;
- \* Infectious diseases, which can increase the body's protein catabolism and cause other metabolic alterations;
- \* Chronic degenerative diseases, which can increase the body's protein catabolism and cause other metabolic alterations;
- \* Gastrointestinal disorders, which can limit the absorption of nutrients, and cause discomfort during digestion and reduce food intake;
- \* Neuropsychiatric factors, which can cause anorexia;
- \* Social-economic factors, which can cause insufficient food intake.

Despite the fact that the normal aging process cannot be halted or reversed, the use of MAP can reverse or minimize many life-threatening effects of malnutrition.

The achievement of adequate nutrition during the third age has so far been a scientific dilemma, because during this period, renal activity intensely decreases. As a result, an average 70-year-old individual could retain only 30% of his juvenile renal activity. Under these circumstances, even the adequate daily protein intake could be contraindicated, because it could provoke a dangerous increase of nitrogen catabolites (metabolic waste), such as ammonia or Blood Urea Nitrogen (B.U.N.).

MAP, unlike any other protein supplement or amino acid formula, can provide a healthier, faster and more effective nutritional support, especially during the third age.

### The use of MAP during any weight loss diet

Royal BodyCare Inc. is pleased to introduce the Master Amino Acid Pattern (MAP) available in Bioshape. The use of MAP during any weight loss diet provides a healthier, faster, and more effective weight loss. At the same time, the use of MAP avoids or minimizes those anomalies commonly associated with weight loss diets, such as hunger, weakness, decreased libido, and the yo-yo effect.

Why can the use of MAP turn successful any well-balanced weight loss diet, which has previously failed? Most weight loss diets have failed because of these shortcomings:

**1.** The cause of overweight has been erroneously attributed only to excessive food energy intake. As a result, weight-loss treatments have been focused in decreasing dietary energy intake by:

- \* Reducing appetite;
- \* Reducing absorption of nutrients;
- \* Reducing ingestion of food.

As a result, other weight loss programs have ignored the fact that these procedures are life threatening. Because by reducing the energy intake, they also reduce the intake of those nutrients necessary to maintain a healthy and productive life.

**2.** Weight loss diets have been focused on maintaining a negative energy balance. Thus, ignoring the fact that a negative energy balance activates the Negative Energy Balance Cycle (NEBC), a physiological cycle, which acts as a homeostatic (self-preserving) response aimed:

- \* At preventing body dehydration by increasing the Anti Diuretic Hormone and the Aldosterone Hormone secretions, thus increasing water and sodium retention;

- \* At preserving body fat tissue by decreasing body metabolism, within a 24-hour period, until the energy balance reaches equilibrium. Thus, halting fat tissue catabolism (breakdown).

- \* As a consequence, the body's metabolism lowers. Fat tissue catabolism halts and water and sodium retention increases. As a result, weight increases. Hunger, weakness, hypoglycemia, headache by ketosis, or decreased libido can also occur.

**3.** Weight loss programs often provide quantitative or qualitative insufficient protein intake. By doing so, the body turns into a negative nitrogen balance. This activates the Negative Nitrogen Balance Cycle (NNBC). As a result:

- \* The amount of body constituent proteins decreases;

- \* The bloodstream osmotic pressure decreases. Thus, an excess of water and sodium, which under normal conditions should be eliminated through urination, is transferred from the bloodstream to the interstitial zone.

As a consequence, the amount of lean body tissue decreases and water and sodium retention increases. As a result weight increases. Hunger, weakness, or decreased libido can also occur. Furthermore, once the diet concludes, the nutritional habits are reassumed, the yo-yo effect, or the regain of weight loss, occurs.

The use of MAP can turn any healthy, well-balanced weight loss diet, into a healthier, faster and more effective diet than any other weight loss program, due to the following reasons:

MAP can easily and effectively provide the daily protein requirement with essentially no calories! As a consequence, the body's Nitrogen Balance equilibrium can be maintained or reestablished. This prevents or halts the NNBC. As a result:

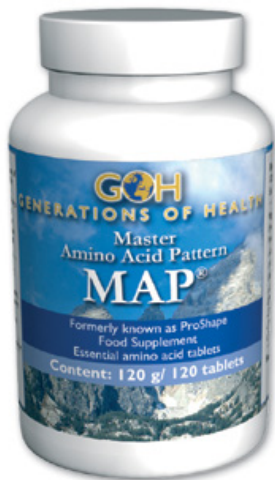
- \* Body's constituent proteins can be preserved and resynthesized;

- \* The adequate bloodstream's osmotic pressure can be maintained or established, thus avoiding or eliminating the excess of water and sodium retention in or from the interstitial zone;

- \* The anomalies commonly associated with other weight loss programs, such as hunger, weakness or decreased libido, can be avoided.

- \* The yo-yo effect can be avoided.

By using MAP in substitution of dietary proteins, the daily protein requirement can be easily and effectively achieved with essentially no calories. The overloading of digestive functions can be avoided, unwanted sodium can be avoided, and unwanted fat can be avoided by using MAP. Due to this characteristic, the use of MAP can provide a healthier, faster and more effective overweight control.



MAP

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