

The most common Q & A

THE MASTER AMINO ACIDS PATTERN (MAP)

Q: *What does MAP mean?*

A: MAP is an acronym of Master Amino Acid Pattern.

Q: *What is MAP?*

A: MAP is a patented (U.S. Patent 5,132,113), 100% natural dietary supplement, which provides a unique pattern of essential amino acids, in a highly purified, free, crystalline form. MAP is recommended as a dietary supplement, in conjunction with the required amounts of vitamins, minerals, trace elements, essential fatty acids (EFA), and energy, in the dietary management of those individuals with inadequate protein intake or absorption, due to physiological, psychological, or social-economic causes.

Q: *How was MAP discovered?*

A: MAP discovery has been the result of 23 years of research work, made by the International Nutrition Research Center (INRC), an American leading research institution in the field of human nutrition.

Q: *Does MAP require any Food and Drug Administration (FDA) approval?*

A: NO, MAP does not require any Food and Drug Administration (FDA) approval, because MAP is a dietary supplement. Dietary supplements, in contrast to drugs, do not require the FDA approval. However, dietary supplements have to comply with the FDA labeling regulations. MAP complies with the FDA labeling regulations.

MAP CHARACTERISTICS

Q: *What is MAP composition?*

A: MAP, in a dose of 10 gram (g), provides the following essential amino 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

Q: *Is MAP a natural or a synthetic product?*

Q: *Why is MAP a natural product?*

A: MAP is a 100% natural product. MAP is a natural product because it is made of natural amino acids, which are extracted (isolated) from dietary proteins.

Q: *What are amino acids?*

A: Amino acids are the constituents of dietary proteins.

Q: *Are Amino Acids natural or synthetic?*

A: Amino Acids are natural because they are extracted (isolated) from dietary proteins.

Q: *Are amino acids animal or vegetal?*

A: Amino acids cannot be classified either as animal or as vegetal. They are, simply, natural compounds.

Q: *Which kinds of proteins are utilized to produce amino acids?*

A: Either vegetable or animal dietary proteins can be utilized to extract amino acids.

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Q: *What are Essential Amino Acids?*

A: Essential Amino Acids are nutrients that are indispensable for human life, because they cannot be synthesized within the human body, and therefore they must be periodically supplied through the diet.

Q: *How many amino acids are considered to be essential for human nutrition?*

A: According to the World Health Organization (WHO) and to The U.S. National Academy of Sciences (NAS), eight amino acids are considered to be essential for human nutrition. This has been also confirmed by clinical studies performed by INRC. MAP contains the eight essential amino acids.

Q: *Why is MAP's Net Nitrogen Utilization (NNU) unique?*

Q: *Why does MAP provide the highest nutritional value?*

Q: *Why does MAP maximize protein synthesis?*

Q: *Why does MAP maximize muscle's strength, endurance and volume?*

Q: *Why does MAP minimize the muscle's recovery period?*

Q: *Why does MAP optimize athletic performance?*

Q: *Why is MAP recommended in the dietary management of those individual who are unable to reach the adequate protein synthesis, due to insufficient protein intake or absorption, or increased body protein metabolism?*

Q: *Why does MAP strengthen and firm body's tissues (i.e. skin, muscles)?*

A: MAP unique amino acids profile provides a 99% Net Nitrogen Utilization (NNU), which means that 99% of its constituent amino acids act as precursors of body protein synthesis ("building blocks"). This is the highest NNU among any dietary protein or amino acid formula. To illustrate: hen egg protein, considered, so far, the dietary protein with the highest in biological value, provides only a 48% NNU, which still is 51% less than that provided by MAP. Due to its high NNU, 0.35 Oz. (10 g) of MAP provide a body's protein synthesis equivalent to that provided by 12.5 Oz. (350 g) of meat, fish or poultry. *As a result, the use of MAP is recommended in the dietary management of those individuals with inadequate protein intake or absorption, due to physiological, psychological, or social-economic causes, who want to maximize their body's protein synthesis, to maximize their muscle's strength, endurance and volume, and, at the same time, minimizes the muscle's recovery period after training.*

Q: *It has been said that MAP maximizes muscle's strength, endurance and volume; is that true for everybody?*

A: Yes, no matter if you are a beginner or an Olympic champion, if you are 15 or 70 years old, you are always going to experience increasing positive results on your muscle's strength, endurance and volume. The results, of course, are according to your age, health status, and the intensity and frequency of your workout.

Q: *What does protein's Net Nitrogen Utilization (NNU) mean?*

A: A protein's NNU represents its nutritional value, namely, the percentage of its constituent amino acids that act as precursor of the body's protein synthesis ("building blocks").

Q: *Why is MAP's NNU health preserving?*

Q: *Why does MAP release the lowest amount of Nitrogen Catabolites?*

A: MAP is, currently, the most health preserving among any dietary protein or amino acid formula. This is due to the fact that MAP releases only 1% of nitrogen catabolites (metabolic waste). Thus, by consuming MAP, in substitution of dietary proteins, a 52% to 84% of unwanted nitrogen catabolites can be avoided. *As a result, the use of MAP is especially recommended in the dietary management of individuals with:*

- *Renal failure, who must avoid nitrogen catabolites.*
- *Hepatic failure, who must avoid nitrogen catabolites.*
- *Diabetes I, Diabetes II, or Gestational Diabetes, who must avoid unwanted Glucose production, originated from dietary protein catabolism. (1 g of catabolized protein originates 49 g of Glucose).*

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- Q:** *Why does MAP release the lowest amount of energy (calories)?*
- Q:** *It has been said that MAP maximizes muscle's strength, endurance and volume, and at the same time, your body's fat can be decreased. Could you explain how MAP works?*
- Q:** *Can an athlete, by taking MAP, reduce the amount of body's fat mass and at the same time increasing body's lean mass?*
- Q:** *Why does MAP maximize weight loss?*
- Q:** *Why is MAP recommended in the dietary management of individuals who are undergoing low-calorie and very low-calorie diets?*
- Q:** *Is it possible, by taking MAP, to gain, regain, or retain an adequate lean body mass, decreasing, at the same time, the body fat mass?*
- Q:** *Can MAP be recommended to both overweight and underweight individuals?*
- A:** Due to its high NNU, 0.35 Oz. (10 g) of MAP release less than ½ a calorie (0.4 Kcal.). Providing, at the same time, a body's protein synthesis equivalent to that provided by 12.5 Oz. (350 g) of meat, fish or poultry. As a result, MAP is recommended in the dietary management of those individuals who require to gain, regain, or retain the adequate lean body mass, controlling, at the same time, their body fat mass.
- For the previous reasons, MAP does not provide any energy (calories), this unique characteristic of MAP, allows to increase muscle's strength, endurance and volume, and at the same time, to decrease body's fat.*
- As a result, MAP is recommended, as a dietary supplement, during low-calorie diets to avoid lack of strength and firmness of body tissues, such as skin or muscles.*
- Q:** *How long does it take to digest MAP?*
- Q:** *What does it mean that MAP is pre-digested?*
- Q:** *What are the advantages of MAP being pre-digested?*
- Q:** *Why does MAP minimize the intensity and duration of digestive functions?*
- Q:** *Why the fact that MAP is pre-digested is advantageous for an athlete?*
- A:** Since MAP is predigested, it can be easily absorbed in the small intestine within 23 minutes from its intake. 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 gastrectomy.*
- By using MAP in substitution of dietary proteins, up to 7 hours per day of digestive functions can be economized, therefore, a faster and more intense body protein synthesis can be achieved.
- Q:** *Is MAP better absorbed in tablets or in powder form?*
- A:** MAP can be easily absorbed either in tablets or in powder form. However, for those individuals who had their stomach removed (gastrectomy), or who suffer gastrointestinal disorders, MAP tablets should be converted into powder.
- Q:** *What is the Fat content in MAP?*
- Q:** *Is MAP recommended in the dietary management of those individuals to whom dietary saturated, monounsaturated, or polyunsaturated fatty acids (fat) ingestion must be controlled?*
- Q:** *Is MAP recommended in the dietary management of those individuals who suffer high blood Cholesterol?*
- A:** 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.*

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Q: *What is the Sodium content in MAP?*

Q: *Is MAP recommended in the dietary management of those individuals to whom dietary sodium ingestion must be controlled?*

A: MAP is 100% sodium free. When dietary sodium restriction is required, unwanted sodium can be avoided by using MAP. By using MAP in substitution of common dietary proteins, 100% of undesirable sodium may be avoided. This is a health-preserving MAP exclusive characteristic among any known dietary protein or manufactured protein nutritional product. *As a result, MAP is recommended in the dietary management of those to whom dietary sodium ingestion must be controlled.*

Q: *Does MAP act as a base or an acid?*

Q: *Is MAP recommended to those individuals who suffer gastritis?*

A: MAP is *amphoteric*, which means it can act either as an acid or a base in accordance with the pH of the surrounding medium. *As a result:*

- *MAP is recommended in the dietary management of those individuals who undergo gastritis.*
- *MAP is capable to balance any abnormal pH.*

Q: *Does MAP release fecal residue?*

Q: *Could the use of MAP as a non-residue dietetic supplement be advantageous?*

A: MAP, in contrast to dietary proteins, does not produce fecal residue. *For this reason, the use of MAP is especially recommended in the dietary management during pre-surgery and post-surgery periods. And, for those patients, who undergo intractable diarrhea, or impaired digestion and/or absorption, secondary to gastrointestinal disorders. However, MAP is not contraindicated to those who undergo constipation.*

Q: *Does MAP cause any adverse reactions?*

A: 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. As a result, everyone who is not able to reach the daily protein requirement, regardless of age, gender or health status, can safely use MAP.

Q: *What is the recommended daily dosage of MAP, if consumed as a supplement of dietary proteins?*

Q: *May MAP be taken with or without food?*

A: 3 to 5 tablets a day, to be swallowed with water or any other suitable beverage during a meal (breakfast, lunch or dinner).

Q: *Can MAP be taken at any age?*

A: Yes, MAP can be taken at the recommended doses, at any age.

Q: *Does MAP have any contraindications when taken in conjunction with medications?*

A: No contraindications have been, so far, reported. However, before taking MAP or other dietary supplements, consult your physician.

Q: *May other dietary supplements be taken in conjunction with MAP?*

Q: *Can an athlete reduce the amount of dietary supplements through taking MAP, and if so, why?*

A: Dietary supplement commonly use as a protein source casein, whey, or soybean, which provide an average of 17% NNU, namely, an 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. For the previous reasons, the use of any protein supplement in conjunction with MAP should be considered disadvantageous.

As a result, by substituting those low NNU dietary supplements with MAP, their nutritional status can be improved and kidney or liver stress can be avoided.

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Q: *Is it necessary to take vitamins, minerals and trace elements in conjunction with MAP?*

A: A daily supplement of vitamins, minerals, and trace elements is recommended, unless you can get fresh fruits and vegetables from your backyard, and a fresh supply of meat, eggs and dairy products from your farm. However, very often, the daily recommended intake of vitamins, minerals and trace elements, is exaggerated by some individuals. *For this reason, an adequate formula of vitamins, minerals and trace elements, should be taken in conjunction with MAP.*

Q: *Could an overdose of MAP be harmful?*

A: An overdose of MAP, like an overdose of dietary proteins, could increase the amount of nitrogen catabolites (metabolic waste). *As a result, those individual with impaired renal or hepatic function must consult their physician to obtain their proper dosage of MAP.*

Q: *How long is MAP's shelf's life?*

A: MAP's shelf's life is two years.

Q: *Does MAP need to be refrigerated?*

A: MAP does not need to be refrigerated, however it is recommended to keep it in a dry place.

Q: *Can MAP be altered with high temperatures?*

A: A temperature above 280 degrees Celsius can alter MAP's nutritional value.

Q: *Why is MAP different from any dietary protein or other amino acid formula?*

A:

- Only MAP, due to its 99% NNU, can provide, in ten tablets (10g), the body's protein synthesis ("building blocks") equivalent to that provided by 12.5 Oz. (350 g) of meat, fish or poultry.
- Only MAP, due to its 99% NNU, releases 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.
- Only MAP can be absorbed within 23 minutes from its intake. This is far less time than the three or four hours necessary to digest dietary proteins.
- Only MAP can provide, in ten tablets (10g), the body's protein synthesis ("building blocks") equivalent to that provided by 12.5 Oz. (350 g) of meat, fish or poultry, with less than half a calorie (0.4 Kcal).

Q: *For which specific nutritional disorders is MAP being recommended?*

A: MAP, as a dietary supplement, is recommended in the dietary management of those individuals who are undergoing nutritional disorders, such as obesity, anorexia, and malnutrition.

THE USE OF MAP DURING PHYSICAL ACTIVITY

Q: *For which specific needs is MAP being recommended to the athletes?*

A:

- To maximize protein synthesis;
- To maximize muscle's strength, endurance and volume;
- To minimize the intensity and duration of digestive functions;
- To minimize the muscle's recovery period.

Q: *How long do you have to use MAP, to see positive results?*

A: You are going to FEEL the positive results from the very first time you use MAP and you will SEE and CONFIRM these results the first week, even if the first week results are often misinterpreted as "Psychological effects". However, by experiencing, week after week, an increase in the muscle's strength, endurance and volume, you

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will soon realize that this dramatic improvement cannot be the result of a psychological effect but that indeed it has to be caused by a natural physiological effect.

MAP AND WEIGHT MANAGEMENT

Q: *Is it possible by taking MAP, to reduce overweight, without damaging your health?*

A: Yes, the use of MAP as a dietary supplement during a low calorie diet is highly effective to maximize weight loss. MAP provides, in a dose of 10 grams, a body's protein synthesis equivalent approximately to that provided by 1 Lb. (450g) of meat, fish or poultry with only ½ a calorie. As a result, by taking MAP during a weight loss diet, one may avoid hunger, maximize weight loss, strengthen and firm body's tissues such as skin and muscle.

Q: *Why is MAP recommended during low calorie diets?*

A:

- To maximize weight loss
- To strengthen and firm body's tissues (i.e. skin, muscle)
- To avoid those anomalies commonly associated with weight loss diets, such as hunger, weakness, hypoglycemia, headache by ketosis, or decreased libido can also occur.
- To avoid regaining weight (yo-yo effect)

Q: *Can a reduction of the lean body mass tissue or a lack of firmness in the skin tissue be corrected by taking MAP?*

A: Yes, an inadequate nutrition leads to negative nitrogen balance, and therefore to decreased body protein synthesis. The last one causes reduction of the body lean mass and also lack of firmness in the skin tissue. As a result, MAP is recommended in the dietary management of those who have reduction of the lean body mass tissue or a lack of firmness in the skin tissue.

Q: *Why does MAP avoid hunger?*

A: Because of its extremely high NNU, 0.35 Oz. (10g) of MAP release a remarkably low amount of energy - less than 40 calories -providing, however, an approximated nutritional protein value equivalent to one pound of meat, fish or poultry. As a result, MAP is recommended, as a dietary supplement, during low-calorie diets to Avoid hunger.

Q: *Why does MAP prevent the regaining of lost weight (yo-yo effect) after low calorie diets?*

A: Low calorie diets are associated with a decreased protein intake that cause a negative nitrogen balance, which leads to loss of lean tissue and, of course, to weight reduction. After the conclusion of the low calorie diet, if an adequate protein intake is reestablished, independently of the energy intake, there is a recovery of the lean tissue lost during the diet and, of course, a regaining of the lost weight. *By taking MAP, as a dietary supplement, during low calorie diets, the loss of lean tissue can be prevented and, therefore also the regaining of lost weight or yo-yo effect can be avoided.*

THE USE OF MAP DURING THE AGING PROCESS

Q: *Is it possible, by taking MAP to prevent, halt or to reverse the aging process?*

A: It is well known that, so far, normal aging process cannot be prevented, halted or reversed. However, the life threatening effects of malnutrition, such as immunodeficiency, anemia, decreased body's lean mass, increased body's fat mass, which are commonly associated with the aging process, can be truly reversed or minimized by taking MAP.

Q: *Are people with impaired renal and hepatic functions allowed to take MAP?*

A: MAP is recommended in substitution of dietary proteins to those who have impaired renal or hepatic function. However, patients with impaired renal or hepatic function must consult their physician about their required MAP dosage.

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Q: *Are those who undergo chronic or acute diarrhea allowed to take MAP?*

A: Because, of its extremely high NNU, MAP is essentially a no-residue food supplement. As a result, MAP is recommended to those who undergo acute or chronic diarrhea. However, MAP is not contraindicated in those individuals who undergo constipation.

Q: *Why is malnutrition so common among the elderly?*

- A:**
- **A decreased sense of taste and smell**, which can cause malnutrition by reducing appetite.
 - **Problems of dentition**, which can cause malnutrition by decreasing eating capability.
 - **Infectious diseases**, which can cause malnutrition as a result of increased body protein catabolism (breakdown) and other metabolic alterations.
 - **Chronic degenerative diseases**, which can cause malnutrition as a result of increased body protein catabolism (breakdown) and other metabolic alterations.
 - **Gastrointestinal disorders** such as decreased gastrointestinal secretion or intestinal absorption, or functional gastrointestinal obstruction. These disorders can cause malnutrition by limiting the absorption of nutrients. Gastrointestinal disorders can also cause discomfort during digestion. Thus, in intent to avoid such discomfort, mainly during the evening, individual food intake may be inadequately reduced causing malnutrition.
 - **Neuropsychiatric factors such as depression**, which can cause anorexia and consequently malnutrition;
 - **Social factors such as poverty**, which can cause malnutrition, as a result of inadequate food intake.

Q: *What life threatening effects of malnutrition, commonly associated with the aging process, can be truly reversed or minimized by taking MAP?*

A: It is well known that, thus far, normal aging process cannot be prevented, halted, or reversed. However, the following life threatening effects of malnutrition, commonly associated with the aging process, can be truly reversed or minimized:

- **Immune impairment.** Malnutrition is associated with immune impairment, which increases susceptibility to infectious diseases. Infectious diseases, in turn, can cause or aggravate even a previously moderate state of malnutrition as a result of many metabolic alterations.
- **Anemia.** Malnutrition is associated with anemia due to deficient erythropoiesis such as: Iron-Deficiency Anemia, Protein Depletion Anemia, Vitamin B₁₂ Deficiency Anemia, Folic Acid Deficiency Anemia, Vitamin C Deficiency Anemia, and Copper Deficiency Anemia. Anemia is common among the elderly. It is estimated that more than 35% of the elderly population experiences anemia. Among the most common symptoms of anemia can be found shortness of breath and fatigue.
- **Decreased lean body mass.** Malnutrition is associated with a decreased lean body mass. As previously described, lean body mass is the living cells mass that comprises muscles, organs, skeleton, antibodies, enzymes, etc. As one of the results, when lean body mass decreases, body movements, including breathing, can be seriously limited.
- **Increased fat body mass.** Obesity is the most common form of malnutrition in the USA. As previously described, during the third age (50-75 years), body fat mass increases up to 100%. This can cause or aggravate health disorders such as cardiovascular diseases, hypertension, shortness of breath, fatigue, or orthopedic afflictions.

Q: *Why has the achievement of an adequate nutrition in the elderly been, so far a scientific dilemma?*

A: The achievement of an adequate nutrition in the elderly has been, so far, a scientific dilemma. One of the major obstacles to accomplishing this purpose has been the fact that during the aging process, renal activity decreases intensely. As a result, an average 70-year old man only retains 30% of his juvenile renal activity. Therefore, even though, on one hand, the adequate daily protein intake is required, on the other hand, it may be contraindicated. This is due to the fact, that the required protein intake if associated with a decreased renal activity can provoke a life threatening increase of nitrogen metabolites (residues) such as Blood Urea Nitrogen (B.U.N.). As a result, MAP is recommended in the dietary management of the elderly, principally in those who have impaired renal function or impaired hepatic function.

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MAP DOSAGE

Q: *What is the recommended dosage of MAP for an athlete, to get dramatic positive results in the shortest time?*

A: Even though each individual is different according to his/her age, nutritional status, and of course, to the intensity and frequency of physical activity, the recommended dosage is the following:

For the beginner:

- 30 minutes before training: from 5 to 10 tablets of MAP, as a dietary supplement, in conjunction with the required vitamins, minerals and trace elements.

For the professional:

- 30 minutes before training: 10 tablets of MAP, as a dietary supplement, in conjunction with the required vitamins, minerals and trace elements.
- During the next meal (lunch or dinner) after training: 10 tablets of MAP as a dietary supplement, in conjunction with the required amount of vitamins, minerals and trace elements.

Q: *What is the recommended daily dosage of MAP, if consumed as a supplement of dietary proteins, during a weight loss diet?*

A: **8 to 10 tablets as a substitute for lunch or dinner**, in conjunction with the required vitamins, mineral and trace elements, to be taken with approximately 1 Lb. (450g) of any fresh fruit, excluding bananas.