# **Essential Amino Acids**

**Essential means that the human body can't make it internally;** it must be consumed as a component of your diet, or in an appropriate supplemental form.

Amino acids are the building blocks of proteins; they are imperative for sustaining good health. The general held thought is that there are eight, arguably nine, essential amino acids. As to why these essential amino acids must be acquired from an external food source; it is assumed that by relying on an external source, organisms have benefited by reducing the overall energy expenditure needed to synthesize these specific protein building blocks from scratch.

# ESSENTIAL AMINO ACIDS

**Histidine** promotes growth and the repair of body tissue.

**Leucine** is needed for protein synthesis and the immune system.

**Isoleucine** is utilized to prevent muscle wasting and promote tissue repair. **Lysine** is utilized for the production of carnitine, which is essential for the oxidization of fatty acids.

**Methionine** assists with the metabolization of fats and proteins.

**Phenylalanine** produces hormones such as epinephrine, norepinephrine, and thyroxine; as well as melanin.

**Threonine** synthesizes purines, which break down uric acid, a by-product of protein digestion.

**Tryptophan** is a precursor to serotonin, a neurotransmitter that regulates appetite, mood, pain and sleep.

**Valine** is vital in the growth and maintenance of body tissues, and their temperature regulation.

# **COMPLETE PROTEIN**

It is well documented that a lack of any of the essential amino acids at any one meal effectively disrupts the proper utilization of our food stuff. **A meal containing all of the essential amino acids is considered to be a complete protein.** You should strive to obtain a complete protein to ensure that all the necessary raw materials are available for health maintenance and repair.

Typically, this is not difficult to accomplish when the diet consists of a wide variety of meat, cheese, eggs, vegetables, nuts, and complex carbohydrates.

Unfortunately highly processed foods, extremes of heat, i.e. overcooking and high temperature frying, as well as vegetarian style diets can either adversely affect the availability or quality of amino acids.

These considerations make it a wise choice to supplement with a product that provides all of the essential amino acids in a whole food formulation.

I recommend supplementing with one <u>Standard Process Protefood</u> Capsule at every meal.

This is a great way to ensure that all of the essential amino acids are available to the body for the ongoing processes of health maintenance and tissue repair.

# Protefood®

# Supports Protein Metabolism, Immune Function, and Skeletal and Muscle Health

Amino acids provide the body with the fundamental building blocks from which the construction of all human protein is made possible. Amino acids are also used directly by the body to maintain several functions of the immune, nervous, muscular, and skeletal systems. Protefood supports these and other functions by providing enzymes that spark amino acid utilization. It provides ribonucleic acid (RNA) to help strengthen the immune system and support protein metabolism. Working together, the amino acids, minerals, enzymes, and vitamin C contained in Protefood interact throughout the human body to support healthy cardiovascular function, immune response, bone development, and protein metabolism.<sup>†</sup>

# How Protefood Keeps You Healthy

# Maintains healthy protein metabolism and cellular function

Lysine is a necessary building block required for construction of all human proteins. Lysine assists in the production of enzymes and hormones. Potassium is also directly involved in the construction of proteins and is involved in the correction of metabolic processes, the proper functioning of the nervous system, and the formation of energy-rich glycogen. Calcium supports cellular function by maintaining normal growth and repair of cells and promoting healthy nerve function. RNA supports protein metabolism by decoding genetic instructions, by activating amino acids for protein construction, and by assisting in building ribosomes to serve as the sites for protein synthesis.<sup>†</sup>

### Supports cardiovascular health

Methionine helps prevent buildup in arteries by assisting in the breakdown of fat. Likewise, vitamin C plays a major role in the metabolism of cholesterol. Potassium and calcium are important minerals to cardiovascular health. Potassium is necessary to initiate heart muscle contractions, while proper regulation of heart muscle contraction and heartbeat is maintained by calciumrich muscle fluids in the heart.<sup>†</sup>

### Supports healthy immune response

Methionine helps inactivate free radicals, making it a powerful antioxidant and detoxifying agent. It also helps protect the liver. Lysine is involved in the production of antibodies and RNA, which help strengthen the immune system. High concentrations of vitamin C are found in cells involved in the immune response, and vitamin C stimulates some cells of the immune system. Vitamin C also has antioxidant properties.<sup>†</sup>

# Please copy for your patients.



# Introduced in 1953

Content: 90 capsules

Suggested Use: One capsule per meal, or as directed.

#### Supplement Facts:

Serving Size: 1 capsule Servings per Container: 90

|           | per Serving | %DV |
|-----------|-------------|-----|
| Calories  | 3           |     |
| Vitamin C | 3.2 mg      | 4%  |
| Calcium   | 50 mg       | 4%  |

#### Proprietary Blend: 483 mg

Defatted wheat (germ), bovine adrenal, choline bitartrate, carrot (root), ribonucleic acid, DI-methionine, L-lysine mono-hydrochloride, glutamic acid, and rice (bran).

Other Ingredients: Bovine bone, gelatin, veal bone, water, ascorbic acid, calcium stearate, and colors.

Sold through health care professionals.





# Protefood®

# How Protefood Keeps You Healthy (continued)

# Promotes healthy bones, muscles, and teeth

Lysine is required for proper growth and bone development in children and facilitates calcium absorption. Calcium keeps bones and teeth at the proper density to sustain daily wear and tear. Vitamin C promotes healthy teeth, bone, and muscle tissue through its primary role of collagen formation, a function found in all cells of the body. Lysine also helps in the formation of collagen. Potassium is required for contraction of all skeletal muscle and is necessary for the building of muscle and normal body growth.<sup>†</sup>

# What Makes Protefood Unique

### **Product Attributes**

### Multiple nutrients from a variety of plant and animal sources

- > Food protein concentrates high in amino acids facilitate complete protein metabolism
- > Ribonucleic acid strengthens immune function
- > Bovine tissues provide nutrients and support to the corresponding tissues in humans
- Vitamins, minerals, and nutrients from plants and animal tissues work synergistically for maximum effect<sup>†</sup>

# Manufacturing and Quality-Control Processes

Low-temperature, high-vacuum drying technique

> Preserves the enzymatic vitality and nutritional potential of ingredients

Not disassociated into isolated components

> The nutrients in Protefood are processed to remain intact, complete nutritional compounds

Degreed microbiologists and chemists in our on-site laboratories continually conduct bacterial and analytical tests on raw materials, product batches, and finished products

> Ensures consistent quality and safety

### Vitamin and mineral analyses validate product content and specifications

> Assures high-quality essential nutrients are delivered

#### Whole Food Philosophy

Our founder, Dr. Royal Lee, challenged common scientific beliefs by choosing a holistic approach of providing nutrients through whole foods. His goal was to provide nutrients as they are found in nature-in a whole food state where he believed their natural potency and efficacy would be realized. Dr. Lee believed that when nutrients remain intact and are not split from their natural associated synergists-known and unknown-bioactivity is markedly enhanced over isolated nutrients. Following this philosophy, even a small amount of a whole food concentrate will offer enhanced nutritional support, compared to an isolated or fractionated vitamin. Therefore, one should examine the source of nutrients rather than looking at the quantities of individual nutrients on product labels.

Studies on nutrients generally use large doses and these studies, some of which are cited below, are the basis for much of the information w provide you in this publication about whole food ingredients. See the supplement facts for Protefood

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