

# AMINO ACIDS

## THERE ARE 3 BASIC TYPES OF AMINO ACIDS

## **ESSENTIAL AMINO ACIDS**

## NON-ESSENTIAL AMINO ACIDS

THOSE THAT CAN ONLY BE OBTAINED THROUGH FOOD THERE ARE A TOTAL OF 9 AMINO ACIDS ESSENTIALS:

-Leucine -Valina -Histidine -Lysine

-Methionine -Phenylalanine

- -Threonine
- -Tryptophan

THE BODY CAN SYNTHESIZE THROUGH OTHER AMINO ACIDS THERE ARE TOTAL OF 13 NOS-ESSENTIAL AMINO ACIDS:

- -Glycine -Ornithine -Proline -Serina -Taurine
- Cystine -Glutamic Acid
- -Giutamic Aci
- -Alanine
- -Aspartic acid
- -Arginine

-Cysteine

\*Aminoácidos condicionalmente essenciais

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-Tyrosine -Cysteine



# ESSENTIAL AMINO ACID PROFILE

## ISOLEUCINE/234Mg

A branched-chain amino acid is easily assimilated

and used as energy by muscle tissue If used to prevent muscle atrophy in weakened people, essential in the form of hemoglobin

#### HISTADINE/234Mg

One of the main ultraviolet ray-absorbing compounds in the skin.

Important in the production of red blood cells

and white; used in the treatment of anemia.

#### METIONINE/180Mg

Precursor of cystine and creatine.

May increase antioxidant (glutathione) levels and reduce blood cholesterol levels.

Helps to eliminate toxic waste from the liver and helps in the regeneration of liver and kidney tissue.

## LEUCINE 522Mg

 A branched-chain amino acid used as a source of energy.

Helps reduce the breakdown of proteins muscular. It modulates the brain's capacity for precursors of neurotransmitters,

as well as the release of enkephalins, which inhibit the weight of pain

signals in the nervous system. Promote the healing of broken skin

and broken bones.

#### LYSINE/666Mg

Low levels can slow protein synthesis, which affects muscles and connective tissue. Inhibits viruses. Lysine and vitamin C together form L-Carnitine a biochemical that allows muscle tissue

to use oxygen more efficiently, delaying fatigue.

#### TREONINE/306Mg

One of the detoxifying amino acids. Helps prevent the accumulation of fat in the liver.

Important component of collagen generally low in vegetarians.

## VALINE/396Mg

A branched-chain amino acid.

Not processed by the liver; captured in a way very active for the muscle. This influences the brain uptake of other precursors neurotransmitters such as tryptophan, phanylalanine and

tyrosine.

#### PHENYLALANINE396Mg

The main precursor of tyrosine.

Improves learning, memory, mood and alertness. It is used to treat some types of depression. It is an important element in collagen production. Suppresses appetite.

#### TRYPTOPHANENO/75Mg

Precursor of the main neurotransmitter serotonin, which exerts a calming effect.

Stimulates the release of growth hormones. The free form of this amino acid is not available in

the US.

It is only available from natural food sources

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## NON-ESSENTIAL AMINO ACID PROFILE

#### ASPARTIC ACID 810Mg

It helps convert carbohydrates into muscle energy. Develops immunoglobulins and antibodies to Immune system.

Reduces ammonia levels after exercise.

#### GLUTAMINE1809Mg

Most abundant amino acid. It plays a key role in the functions of the immune system. An important source of energy, especially to the kidneys and intestines during calorie restrictions.

A Brain Fuel That Is a Helping Hand for memory and a stimulant for concentration and intelligence.

#### PROLINE 2466Mg

A major component in the formation of connective tissue and heart muscle. Easily mobilizable for muscle energy. Main constituent of collagen.

#### ALANINE 1512MG

Major component of connective tissue. A key intermediary in the glucose-alanine cycle, which allows muscles and other tissues to obtain energy from amino acids.

Helps strengthen the immune system.

#### A.GLUTAMIC2070 MG

An important precursor of glutamine, proline, ornotin, arginine, glutathione and GABA. A potential source of energy.

Important in brain metabolism and metabolismo de outros aminoácidos.

#### PROLINE 576Mg

limportante na produção de energia das células. Ajuda a memória e o funcionamento do sistema. nervoso.

Ajuda a fortalecer o sistema imunológico, produzindo imunoglobulinas e anticorpos.

#### TAURINE

Aid in the absorption and elimination of fats. It can act as a neurotransmitter in some areas of the brain and retina

#### CYSTINE

It contributes to strong antioxidant actions of connective tissue and tissues.

Assists in healing processes, stimulates

activity of white blood cells and helps reduce pain from inflammation.

Essential for the formation of skin and hair.

#### GLYCINE4194Mg

It aids in the manufacture of other amino acids and is part of the structure of hemoglobin and cytochromes (enzymes involved in energy production)

It has a calming effect and is sometimes used to Treat aggressive and manic-depressive people. It produces glucagon, which mobilizes glycogen. It can inhibit sugar cravings.

#### ORNITINE

It can help increase growth hormone secretion in high doses.

Helps with immune and liver function. Promotes healing.

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## CONDITIONALLY ESSENTIAL AMINO ACID PROFILE

## ARIGININE 1494Mg

May increase insulin and glucagon secretion and growth hormones. Assists in injury rehabilitation, collagen formation and stimulation of the immune system. Creatine precursor, acid gamma aminobutyric acid (GABA, a brain neurotransmitter). It can increase sperm count and T-cell response.

## CYSTEINE

It detoxifies harmful chemicals in combination with L-aspartic acid and L-citrulline. Helps prevent damage caused by alcohol and tobacco consumption.

Stimulates the activity of white blood cells.

### TYROSINE126MG

Precursor of the neurotransmitters dopamine, noradrenaline and epinephrine, as well as thyroid hormones, growth hormones and melanin (the pigment responsible for skin and hair color) Elevates mood.

## NON-PROTEINOGENIC AMINO ACID PROFILE

In biochemistry, a non-proteinogenic or "unnatural" amino acid is one that is not naturally encoded or found in the genetic code of any organism. Despite the use of only 23 amino acids (21 in eukaryotes) by the translation machinery to assemble proteins (proteinogenic amino acids), more than 140 naturally occurring amino acids are known and thousands of combinations are possible.

#### HYDROXYPROLINE 2214MG

An important component in collagen protein. Hydroxyproline and proline play a key role in collagen stability. Hydroxyproline comprises approximately 4% Of all the amino acids found in animal tissue, an amount greater than seven other amino acids are incorporated translationally. It allows for abrupt twisting of the collagen helix.

#### HYDROXYPROLINE270MG

UA form derived from the essential amino acid Lysine. Good sources of lysine include cheese, eggs, fish, beans, milk, potatoes, red meat, soy products, and yeast. The only difference between hydroxylysine and lysine is that a "hydroxyl" group is added to lysine; However, this small change allows hydroxylysine to perform very different functions. Hydroxylysine is best known as a component of collagen.

The hydroxyl group of hydroxylysine has two important functions; plays a crucial role in the

They stabilize and cross-link collagen structural bonds and serve as binding sites for carbohydrates. Hydroxylysine is found exclusively in animal protein sources and predominantly in collagen.

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