

Amino Acids Research Paper

APPEARS INS



Amino acids are the building blocks of proteins. They make up a significant portion of our bodies and they are the next largest component in our bodies after water. Amino acids help to naturally moisturize the skin when topically applied.

The stratum corneum is formed when the cells within the epidermis die, and get pushed up to the surface layer of our skin. The proteins in these cells are broken down into amino acids and supplied to the stratum corneum. Collagen, which is a fundamental protein for youthful-looking skin, also consists of various amino acids. Amino acids are a powerful skincare ingredient and can be found in Three Ships products such as the [Purify Aloe + Amino Acid Gel Cleanser](#).

AMINO ACIDS ARE THE BUILDING BLOCKS OF ALL PROTEINS

They are hygroscopic compounds capable of penetrating the upper layers of the epidermis far more effectively than other higher molecular weight molecules. Amino acids impart moisture and softness to the skin. A principal application of amino acids is in skincare where their low molecular weight and basic chemical structure leads to a smoothing effect, while their water-binding capacity provides a moisture reservoir at the surface of the skin. There are a total of a total of 20 amino acids, 9 of which cannot be synthesized in our bodies and must be obtained through our diets; these are called essential amino acids.



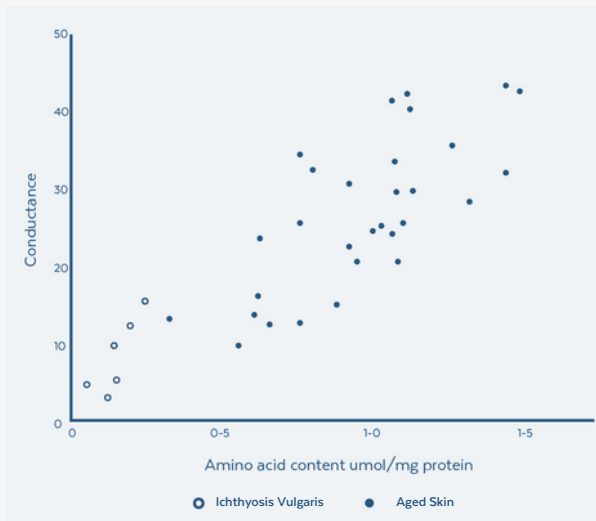
Of a total of 20 Amino Acids, 9 cannot be synthesized in our bodies and must be obtained through our diets; these are called essential Amino Acids. Essential Amino Acids are Histidine, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Threonine, Tryptophan and Valine. The 11 remaining Amino Acids can be synthesized in the body and are thus called non-essential Amino Acids. The non-essential Amino Acids are Alanine, Arginine, Asparagine, Aspartic Acid, Cysteine, Glutamic Acid, Glutamine, Glycine, Proline, Serine, and Tyrosine. However, both essential and non-essential Amino Acids play an important role to support our bodies.

THE AMINO ACIDS USED IN THREE SHIPS BEAUTY PRODUCTS ARE PLANT-DERIVED

Traditionally, amino acids are made through a fermentation process similar to how beer is made. This fermentation process is done by fermenting the starting solution with safe microorganisms to help produce amino acids. These microorganisms work to make the starting ingredients into food and other substances that are needed by the microorganisms to multiply and make amino acids. The enzymes in these microorganisms help to speed up the reaction and break down their food into smaller components that are necessary for them to survive, which also happens to produce amino acids. The fermentation process is a series of reactions involving around 10-30 types of enzymes. However, the exact process of extraction method for the amino acids that Three Ships sources is proprietary information

SCIENTIFIC STUDY

Stratum Corneum Hydration and Amino Acid Content in Xerotic Skin



The purpose of this study was to investigate the correlation between skin hydration and amino acid content. The study observed the skin of 36 patients overall, 6 patients with Ichthyosis vulgaris and 30 patients with ranging severity of xerosis. To measure skin hydration, a frequency impedance meter was used. From their results, the patients that had xerosis, had lower amino acid content. More severe xerosis was linked to decreasing amino acid content. Their skin also lacked hydration as well. This study suggested that there was a significant correlation between hydration and amino acid content. The results suggested that the lower the amino acid content the less hydrated the skin is and the more susceptible the skin is to the pathogenesis of these xerotic skin conditions.

Amino Acids are the main component of our bodies and contribute to skin health. Different Amino Acids act in different ways to benefit the skin and work best in conjunction with each other. Studies have shown that there is a correlation between Amino Acid content and hydration in the uppermost layer of the skin, making them a vital component in skin health. The Amino Acid used by Three Ships is plant-derived and processed through fermentation methods. This ingredient can be found in products such as the Purify Aloe + Amino Acid Gel Cleanser.