AMINO ACID COMPOSITION OF WOOL FIBER

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ABSTRACT

Wool is a textile fiber obtained from sheep and other mammals, especially goats, rabbits and camels. As an animal fiber, wool consists of protein with a small amount of lipids. This makes it chemically very different from cotton and other plant fibers, mainly cellulose.[1]. Wool fiber is an important natural protein fiber with unique properties such as durability, resistance to various chemicals, moisture and elasticity.

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67; leucine-35-64; arginine-35-47; valine-0-47; threonine-0-34; alanine-0-31; aspartic acid-19-22; glutamic acid-0; isoleucine-0; histidine-0; lysine-0 and methionine-0[2,3]. Low sulfur proteins make up 60-70% of total proteins; Sulfur proteins make up 20-40% of total protein and contain very high amounts of cysteine, but no methionine at all, and high levels of tyrosine-binding proteins and high levels of tyrosine have. But it is characterized by the absence of methionine, lysine, isoleucine, histidine and glutamic acid. Keratin wool protein is synthesized at the top of the bulb, then assembled into microfibrils and matrix, and finally hardened by the formation of disulfide bonds within and between protein chains. Cysteine makes up about 10% (8.6-13.1%) of the amino acids in wool protein, in contrast to its amount in whole body proteins (1.3%). The concentration of methionine in the wool is low, about two times less than the concentration in the whole body. Methionine is present in filament proteins but not in matrix proteins. The concentration of serine is also high in wool protein, about twice as much as in the whole body. The function of serine in wool fiber is not clear. According to some assumptions, the serine hydroxyl group forms hydrogen bonds that help strengthen the fiber structure. Aromatic amino acid tryptophan and amino acid amino acids aspragine and glutamine, which are amino acid amides, have not been identified in wool fiber. The variable values of amino acids in wool fiber and protein make it necessary to study the chemical composition of wool samples obtained from domestically raised sheep.

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