Differences of Histidine Conversion in Human and Other Mammals

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It is considered that transformation of amino acids found in the structure of natural proteins is the same with man and animals. So, division of amino acids into essential and nonessential amino acids is largely the same in animals and humans. However, there are two amino acids whose essentiality differs greatly even in mammals and man. These are threonine and histidine. While in case with all other mammals threonine is degraded irreversibly in two ways, in case with humans this occurs only in one way which nevertheless does not influence essentiality of threonine. As to histidine the features of its nonessentiality found with man leads to the fact that histidine is a nonessential amino acid in the healthy adults unlike the case with a majority of mammals. In the present paper the transformation features of histidine in mammals and man are described and paradoxical nonessentiality of histidine for man is explained, which is necessary to take into account when making up ration.

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