Announcement

iMedPub Journals
www.imedpub.com

Journal Nutraceuticals and Food Science

2021
Vol.6 No.6:32

Join us as our Editorial Board Member: Journal of Nutraceuticals and Food Science

Received: June 20, 2021; **Accepted:** June 29, 2021; **Published:** July 05, 2021

A.K Johnson*

Editorial Office, Journal of Nutraceutical and Food Science, London, UK

***Corresponding author:** A.K Johnson

neutraceuticalfoodsci@journalres.com

Editorial Office, Journal of Nutraceutical and Food Science, London, UK

Citation: Johnson AK (2021) Join us as our Editorial Board Member: Journal of Nutraceuticals and Food Science. J Nutraceuticals Food Sci Vol.6 No.6:32

Editorial

A protein typically includes 20 distinct Amino Acids (AA) bonded together by peptide bonds. The term "protein" is an Greek word "proteios," which means "primary". Protein is the most essential component of tissues in both animals and humans, thus this phrase is highly suitable in nutrition. Dietary protein has little nutritional benefit until it is hydrolyzed to AA, dipeptides, or tripeptides in the small intestinal lumen by proteases and peptidases. The nutritional value of dietary protein is therefore determined by its quantity, digestibility factors, and relative proportions of AA. Because neither nitrogen nor sulphur are produced in the body, AA supply nitrogen, hydrocarbon skeletons, and sulphur (essential components of life) that cannot be substituted by any other nutrients (including glucose and lipids). Glutathione, creatine, nitric oxide, dopamine, serotonin, RNA, and DNA are all necessary precursors for the production of proteins, peptides, and low-molecular-weight compounds (e.g., glutathione, creatine, nitric oxide, dopamine, serotonin, RNA, and DNA). The dietary protein is hydrolyzed by two enzymes viz. peptidases and proteases to generate AA, dipeptides, and tripeptides in the lumen of the gastrointestinal tract. These digestion products are utilized by bacteria in the small intestine or absorbed into enterocytes. Amino acids, that are not simplified by the small intestine passes to the portal vein for protein synthesis in skeletal muscle and other tissues. Amino acids are also utilized for cell-specific production of low-molecular-weight metabolites which are having enormous physiological importance. In the fed state, dietary glutamate, glutamine, and aspartate are significant metabolic fuels for the mammalian small intestine, but in the post-absorptive state, glutamine in the arterial blood is the only source of energy for this organ.

In lymphocytes and macrophages, glutamine contributes 50% and 35% of ATP, respectively, to maintain immunological responses. As a result, AA is required for organisms' health, growth, development, reproduction, breastfeeding, and survival. Metabolic diseases such as kwashiorkor (caused by a severe protein deficit) and marasmus (induced by a severe protein and energy deficiency) in humans, notably in many youngsters in impoverished countries, vividly demonstrate this. In senior people, especially those in wealthy nations, less severe types of dietary protein shortage occur, increasing their vulnerability to metabolic and viral disorders. Overconsumption of dietary AA and protein from meals, as well as excessive supplementation, might jeopardise human health, particularly in individuals with hepatic or renal impairment. Knowledge of AA biochemistry and nutrition offers the required basis for optimising the suggested values for human protein dietary needs and comprehending the possible health effects of dietary protein. Human dietary protein and AA needs have typically been determined using nitrogen balance experiments. 10 AA tracers have been employed in conjunction with the N balance approach to assess the dietary needs of "nutritionally essential AA" which are AA whose carbon skeletons are not formed or are poorly generated by animal cells, over the last three decades. The dietary needs of synthesizable AA by animals, including humans, have piqued interest in recent years. The main goal of this review is to emphasize historical research on human dietary protein intake as well as current concerns about the effects of protein nutrition on health, especially the preservation of skeletal-muscle mass and function in adults.