Тип работы: Реферат

Предмет: Химия

Content

Introduction

Proteins catalyze virtually all chemical reactions in the body, regulate gene expression, comprise the major structural elements of all cells, regulate the immune system, and form the major constituents of muscle. Individual amino acids, the components of proteins, also serve as neurotransmitters, hormones, and modulators of various physiological processes. Every aspect of physiology involves proteins. The relationships between dietary protein and bodily protein metabolism are a major focus of research.
Milk has important nutritional properties that are beneficial to the health and growth of infants. In addition, milk, especially bovine milk, is an important source of essential nutrients in human diet. Milk protein (MP) can provide essential amino acids (EAAs) and has high nutritional value. Amino acids (AAs) are the building blocks of protein synthesis; they also suppress protein catabolism and serve as substrates for gluconeogenesis. Furthermore, milk also contains many bioactive proteins.
MP synthesis and secretion is a complex biological process, involving integrated steps such as FAA and PBAA uptake, transcription and translation of MP genes, proteins modification after translation, and finally, secretion of the proteins into the alveolar lumen.

1. Milk protein biosynthesis - intelligent nutrition of the future

«Milk protein is one of the most important nutrients to the neonate drives their nutritional and immunological properties. It contains a variety of essential amino acids required by the body to maintain a variety of potential biological functions» [1]. Milk proteins fall into the category in which they are synthesized by the cells of the mammary gland. Milk protein is synthesized by precursors from the diet and the availability of amino acids (AA) passes from the blood to the lumen of the mammary alveoli. The knowledge in the area of milk protein continues to be one of rapid progress in the subject of lactation. Several papers review the finding involving milk protein in detail in this area. Since, the process of milk protein synthesis requires the accumulation of information from the testing of hypotheses in a wide range of species. New research approaches have provided a further understanding of the control mechanism of milk protein synthesis at both cellular and molecular levels.
Since the synthesis of milk protein during lactation is a complex biological activity. The mechanisms of milk protein synthesis are concerned with the mechanisms of other major milk constituents with lactose and milk fat which are widespread and diverse. Multifactorial have involved these lines of approach for the research area in both cellular or molecular studies of milk protein synthesis still being investigated by scientists.
«Milk proteins can provide much of the protein and amino acid dietary needs of the human diet, as they provide a

balanced complement of amino acids that can be used for the biosynthesis of non-essential amino acids» [3]. Milk proteins are natural materials with high nutritional value, excellent functional and sensory properties that are safe for consumption.

The escalating demand for healthy diet is increasing the market for milk protein. As people become more health-conscious, they are seeking out nutritious foods that can help them maintain a healthy lifestyle. Milk protein is a popular choice for this group because it is high in protein, low in fat, and rich in other essential nutrients like calcium and vitamin D.

List of literature

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