Food Biopolymers: Structural, Functional, and Nutraceutical Properties: Food Proteins: An Overview

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Introduction

Proteins are considered as the most abundant organic molecules in living systems and are usually required in large quantities because they are the building blocks of the body therefore a way more diverse in structure and function than any other class of macromolecules. All proteins are made up of one or more chains of amino acids which share a general structure consisting of a central carbon atom, also known as alpha (α) carbon, bonded to an amino group (NH_2), a carboxylic group (COOH), and a hydrogen atom (Fig. 1). Each amino acid has another atom or group of atoms bonded to the central atom known as R group which determines the identity of the amino acid. For instance, if R group is a hydrogen atom, then the amino acid is glycine and if it is methyl (CH_3) the amino acid is alanine. Food quality is usually determined by its nutritional and functional properties which primarily depend upon the type of proteins present in the food material. Nutritional properties of proteins include biological value, protein efficiency ratio; protein digestibility corrected amino acid score, nutritional index, and corrected amino acid score (Mir et al. 2018). These nutritional properties depend upon the type of amino acids and their bioavailability or in other words properties affecting the body after passage of food

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