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Chapter 6 - Food Proteins and Peptides

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Abstract

The qualitative and quantitative determination of proteins and peptides in raw or processed food is experiencing a growing interest and importance from both scientific and economic point of view. Proteomics and peptidomics are relatively new entries in the field of food security, safety and authenticity, and themselves can contribute to the emergence of new branches of the science of food, such as foodomics and the just born nutriomics, digestomics, and gut metagenomics/metaproteomics. Mass spectrometry, in combination with a wide variety of separation methods and bioinformatic tools, is the principal methodology for proteomics. Both the so-called "in-gel" and "gel-free shotgun" bottom-up approaches are widely used.

Among the arguments described in this chapter there are: stress effects on gene expression, postharvest (plant) and postmortem (livestock) protein modification, food safety, quality and authentication, food processing and quality control, frauds discovery, food peptidomics and digestomics.

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Keywords

Bioactive peptides; Biotic and abiotic stresses; Food processing; Food quality control; Food security; safety; quality and authentication; Liquid chromatography/mass spectrometry

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