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Study of The Pork Meat, Soybeans and Apple Proteins Profile

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SUMMARY

Electrophoresis is a powerful and reliable technique to separate proteins based on charge and molecular weight. Its importance is highlighted by the proteomics importance in functional genomics.

Meat has biological value because the proteolysis of meat muscle generates multiaminoacid peptides that have nutrafunctional roles that minimize health problems. 2DE pattern of porcine muscles have been published in the last twenty years [1,3]. Some of these maps have been used to find molecular markers for meat quality. Main protein fractions identified are ultra–low range molecular weight proteins with MW between 20-70 kDa at pH 5-7 (as Serum Albumin, Actin, Enolase, CK, GPDH, GPH, TPI) [2,4]. **Soyabeans (***Glycine max)* contain all the essential aminoacids, which must be supplied in the diet because they cannot be synthesized by the human body. Soyabeans are the richest sources of protein among the plant foods. Good quality and functionality of its proteins, hypoallergenicity, low cost and availability are other advantages that motivated the researchers to explore its utility. Soy protein products can replace animal-based foods--which also have complete proteins but tend to contain more fat, especially saturated fat. Generally, about 80% of the soy proteins extracted from soybeans are glycinin (11S) and β-conglycinin (7S) [5,6] which can be precipitated at pH 4.5 called acid-precipitated proteins. On the other hand, some proteins remain soluble at pH 4.5 and are thus called whey soybean proteins (WSP), which make up 9–15.3% of soybean seed protein. The protein profile of **apple** (*Malus domestica)* samples contains several proteins with molecular range of 6.5–95.1 kDa. Some proteins are well defined and among them the most abundant component (both in pulp and peel samples) has a molecular weight of approximately 17–18 kDa (Mal d 1, Mal d2, Mal d3, Mal d4) [7,8].

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