Proteomics in Medicine

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Proteomics plays an important role in medical research, such as in drug discovery and diagnostics, because of the link between proteins, genes and diseases [6]. Understanding protein functions help to understand diseases is a very important and promising area of clinical proteomics [6]. Neuroproteomics is a rising application in the study of brain disorders. Proteomics analysis of brain tissue is an essential part of neuroscience research [8-10], although it faces many challenges, most importantly the difficulty of obtaining sufficient sample for mass spectrometry analysis, which requires at least 30 ng of protein. Usually 30-40% of proteins are lost during the sample preparation process, therefore low abundance proteins will not always be detected [11,12]. The availability of animal models may solve these problems in some cases [11].

Quantitative labelled and label free proteomics technologies contributes to studies aimed at revealing disease pathways, biomarker discovery and drug development [12]. The continuous advancement in these technologies promises the fast and better analysis of proteins, understanding their function and role in many important diseases such as Alzheimer’s and Parkinson’s.

References