

Editorial



Proteomic Approach and Health Promotion

For over a decade, applied proteomic researches in human health focused on the development and application of proteomic tools to promote the prediction, prevention and treatment of human diseases. Human Proteome Organization (HUPO) focused on global collaboration in major proteomic projects by gathering international laboratories. The scientific objectives of Human Proteome Project (HPP) include sampling and banking, antibody banking, expression profiling, modification profiling, protein linkage mapping, bioinformatics, and so on. Brain- HPP established on understanding protein expression in different parts of brain, neurodegenerative diseases and aging. Cancer-HPP follows the procedure to accrue a list of target proteins from each cancer type and strategy for assay development. Liver -HPP has investigated the proteomes of fetal liver tissues and adult liver tissues. HUPO also supported stem cell proteomics that may discover tremendous potential to develop treatments of diseases especially in the area of regenerative medicine. In addition, HPP supports large-scale proteomic projects related to cardiovascular, diabetes, EyeOME and kidney diseases. Many new biomarkers were introduced for cardiovascular disease and stroke, psychiatric disorders such as schizophrenia, neurodegenerative diseases such as Alzheimer's disease and kidney disease. Genomic and proteomic technologies are developed to identify, classify and improvements in treatment of autoimmune patients. Because of different protein expression in the amniotic infection, biomarker discovery in the amniotic fluid and serum may be helpful in early diagnosis. Proteomic methods and tools used in the research laboratory has become an increasingly popular method in the clinic. Beside on technology development, this also needs to set up standard operating procedures and optimize the strategies for proteome analysis. In addition, identification of protein drug targets is an important research program in pharmaceuticals. Dynamic nature of proteome and lack of standard guidelines for laboratory work led to diversity in the proteome identification in the different laboratories. It seems that application of standard materials and procedures enable accurately identification and quantification of proteins in a various laboratories. Finally, proteomic approach can be used to health promotion through discovery of valuable prognostic and diagnostic biomarkers.

Hakimeh Zali

School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran