

PROTEOMICS IN THE DISCOVERY OF CANCER BIOMARKERS

Biomarkers are essential for screening, diagnosis, prognosis, monitoring response to treatment, and detection of recurrent diseases. However, the number of clinically useful biomarkers is presently still limited. In the post-genomic era, there is now hope for a new age in biomarker discovery due mainly to the rapid development of functional genomic and proteomic technologies in which global approaches are used to examine the function of genes and proteins. For example, advanced proteomic technologies have been used to separate, identify and characterize proteins that are differentially expressed in either patient sera or diseased tissues as compared to the normal ones. These differentially expressed disease-associated proteins are potential biomarkers or therapeutic targets for biopharmaceutical development. In fact, protein expression profiling using 2-dimensional electrophoresis (2D-E) has provided the best 'snapshot' of the protein repertoire of the cell or body fluid at a given time. Moreover, analysis of proteins present in body fluids such as serum, urine, saliva, CSF, and synovial fluid to search for new biomarkers, is restricted to proteomics only.

In this seminar, the application of proteomics in cancer biomarker discovery will be illustrated by global profiling of proteins present in patient sera, cancer cell lines, and tumor tissues, with emphasis on the research currently being carried out in the newly established Oncoproteomics Centre (OPC).



Maxey Chung C M

*Associate Professor, Department of
Biochemistry, NUS*

Date: 27 Feb 2004, Fri
Time: 4 pm
Venue: LT 20
Host: A/P R M Kini

All are welcome