

**Proteomic  
approaches for  
profiling cancer  
signaling pathways**

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After human genome is decoded, the characterization of the proteins is the next challenging task. Unlike genomic studies where individual changes may not have functional significance, protein expression is closely aligned with cellular function and activity. The proteomic profiling of functionally important regulatory proteins in cancer cells may shed light on the understanding of the molecular mechanisms of cancer development and metastasis. Uncovering the underlying protein signaling network changes in cancer aids in understanding the molecular mechanism of carcinogenesis and identifies the characteristic signaling network signatures unique for different cancers and specific cancer subtypes. The identified signatures can be used for cancer diagnosis, prognosis, and personalized treatment. During the past several decades, several proteomic approaches have been adopted to identify some signaling proteins and to help us understand their structure, function, and clinical significances in various cancers. We recently developed a powerful proteomic approach called Protein Pathway Array (PPA) analysis that allows identifying the important, but low abundance proteins and phosphoproteins in various cancers. In recent years, using proteomic approaches, we and others have identified various cancer biomarkers in diagnosis, prognosis and therapeutic target identification in various cancers. This presentation summarizes the usage of proteomics in recent years as an important technique in defining the proteome of cancer, which has helped in elaborate understanding of the diseases and has provided new avenues for developing better therapeutics and prognosis.

**Biography**

Fei Ye has completed her Ph.D at the age of 31 years from Norman Bethune University of Medical Sciences (NBUMS) in China and postdoctoral studies from Tongji Medical University in China. She is the assistant director of Molecular Pathology Division and assistant professor of Department of Pathology at Mount Sinai School of medicine. She has published more than 30 papers in reputed journals and serving as a reviewer of several reputed journals including Cancer Letters and Cancer Investigation.