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Pathology Department, New York Medical College

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The Department of Pathology is proud to introduce the latest addition to our faculty, Dr. Fei Ye. Dr. Ye’s research has mainly focused on understanding the perturbation of signaling pathways and signaling networks at genomic and proteomic level in several cancers, including lung cancer, gastric cancer, etc. To meet the demand of rapid transition from genomics to proteomics, Dr. Ye and her mentor Dr. Zhang developed an innovative Proteomic Pathway Array (PPA) in 2005 (Cell Div. 2009 Oct 28;4:20), which can be used to screen protein expression and activation of the signaling pathways (i.e. phosphorylation) in different diseases including cancer. The significant advantages of this technology over other proteomic arrays and genomic level include an improved sensitivity and specificity to detect low abundance proteins and specific proteins, and a high recovery rate of differentially expressed proteins and phosphoproteins. It provides a better understanding of disease at the signaling pathway and network level. Using this novel PPA, we have identified various protein biomarkers for molecular classification and staging of various cancers and guiding the targeted therapy and prognosis. For example, we generated a risk score model using five protein biomarkers (Factor XIII B, TFIIH p89, ADAM8, COX-2 and CUL-1) identified by PPA to predict lymph node metastasis and prognosis in gastric cancer. One more example, the four proteins (CDK4, HSP90, p-CREB and CREB) were identified by the PPA, which generated the risk score of each individual patient with non-small cell lung cancers (NSCLC) to predict survival. It is our hope that the risk score can be used for more accurate patient stratification for surgical and chemotherapeutic treatment in combination with TNM stage in the patient with NSCLC.
**New External Funding**

**Study Sponsor: Regeneron**

“Blood and Fresh Tumor Tissue Acquisition for Patient Derived Xenograft (PDX) Studies”
The purpose of this study is to determine genetic contribution to the development of solid malignant tumors through genomic sequencing.

**Study Sponsor: Regeneron**

“Healthy Subject Blood For Research”
The purpose of this study is to collect blood from healthy subjects for use in research studies in order to calibrate research laboratory equipment, set normal ranges for values measured in research laboratory assays, and determine whether blood from healthy subjects can provide information about the abnormalities underlying certain diseases.

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