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Protein biomarker discovery and validation

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Abstract

Protein biomarkers could be used for early diagnosis of life-threatening diseases, such as cancer, identifying novel drug targets, uncovering mechanisms of drug action or adverse responses to a drug, and monitoring or predicting patients' responses to treatment. The ability to semi-quantitatively and quantitatively measure the expression levels of multiple proteins from a variety of biological samples provides a powerful tool for identification of new biomarkers and for validation of potential biomarkers, respectively. Successful biomarker discovery and validation heavily depends upon the use of detection technologies that are high-content, high-throughput, highly sensitive and highly reproducible. We have developed two biomarker discovery and development formats: multiple dimensional profiling platform and target profiling platform. Samples from diverse sources can be applied in our systems. This presentation will discuss the applications of antibody arrays in biomarker discovery and validation in variety of human diseases, with an emphasis on cancer.

Biography

Ruo-Pan Huang is a founder and CEO of RayBiotech, Inc and adjunct associate profess of Emory University. As a pioneer in the development of protein array technology, he and his team have developed many innovative protein array technologies and products which now are widely used worldwide by many investigators. Dr. Huang has published about 100 scientific research papers. He also serves on the editorial board of several journals such as Cancer Genomics and Proteomics, journal of analytical oncology and open journal of proteomics and on several other committees, including an NIH study section and Chinese National Natural Science Fund. His research has been funded by NIH, ACS, Emory University and others. During his tenure, he has received several awards, including the American Cancer Society Young Investigator Award.