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Using cytokine antibody arrays to elucidate complex cytokine networks in the hallmarks of cancer

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Abstract

It has been long known that cytokines play important role in cancer initiation, development and progression. Until recently, the lack of suitable high-content and high-throughput approaches has hindered progress in understanding the role of complex cytokine networks in cancer. Since their introduction in 2001, cytokine antibody arrays, which have the ability to detect hundreds of cytokines simultaneously in highly sensitive, high-throughput format, significant advances have been made in our understanding of the role of tumor–stromal interactions and chronic inflammation in tumorigenesis, angiogenesis and metastasis, as well as the elucidation of several cytokine-driven mechanisms of cancer drug resistance in tumor cells. This presentation will discuss cytokine antibody array technologies and their recent contributions toward a better understanding of the mechanisms of cancer hallmarks.

Biography

Ruo-Pan Huang is a founder and CEO of Ray Biotech, 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.