

The use of multi-parameter systematic strategies to predict, prevent, and personalized treatment for cancer

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Cancer is a complex whole-body disease that alters in the levels of gene, protein, and metabolite, and that involves multi-factors, multi-processes, and multi-consequences. Individual variation is involved in each stage of prediction/prevention, early-stage diagnosis/therapy, and late-stage diagnosis/therapy. The development of omics and systems biology has promoted one to gradually change paradigms in oncology from traditional single factor strategy to multi-parameter systematic strategy. The therapeutic model of cancer has changed from the general radiotherapy and chemotherapy to personalized strategy. The development of predictive, preventive and personalized medicine will substantially change the understanding, prediction, prevention, and therapeutic model of a cancer from a systematical and comprehensive point of view in the future.

Biography

Xianquan Zhan obtained his M.D. and Ph.D. degree at the West China University of Medical Sciences. Since 2001, he had continuously worked at the University of Tennessee Health Science Center and the Cleveland Clinic in the United States, where he focused on mass spectrometry, proteomics, and biomarker studies, and achieved the rank of Associate Professor at the University of Tennessee Health Science Center in 2010. Currently, he is a Professor at the Central South University Xiangya Hospital in China, the National Representative in China of EPMA, Associate Editors of BMC Genomics and of BMC Medical Genomics. He has published 62 peer-reviewed research articles, 5 book chapters, and 1 US patent. His current main research interest focuses on the studies of disease proteomics, biomarkers and structural biology, and the development and use of omics techniques for cancer predictive, preventive, and personalized medicine.