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Zestern analysis, shaking up proteomic research in cancer research

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The completion of the human genome projects marks the arrival of genomic research era, where genetic information is accumulated and analyzed in an unprecedentedly speed in the last decades to significantly change the world of Cancer research. In the meantime, proteomic research in Cancer Research is clearly lagging behind due to technical limitation. While antigen-antibody interaction serves as the basis of proteomic research, it faces a long-lasting challenge of cross-reactivity of antibodies. In this talk, a novel method, Zestern analysis, is proposed to solve this problem, with clear advantages of simple, fast, specific and quantifiable, suitable for multi-well format analysis of protein samples. It follows a standard dot blot protocol until the formation of immunocomplex containing both antigen of interest and detection antibody on the membrane. An elution step is added in Zestern analysis before the detection step to ensure the specificity of the analysis. Taking advantage of the reversibility of antibody-antigen interaction, small peptide bearing the protein sequence of the antigen of the interest is used in elution solution to liberate the detection antibody from the immunocomplex into elution solution for direct quantification. Continuing exploration of this method may revolutionize the field of proteomic research with direct impact on high throughput immunoblot analysis to move the field of Cancer Research forward.

Biography

Jiandi Zhang received his Doctorate from Department of Cell Biology, Duke University with Drs. Yusuf Hannun and Lina Obeid on the lipid mediators and chemotherapeutic agent-induced apoptosis. He went on to complete his Postdoc training with Nobel Laureates Drs. Mike Brown and Joe Goldstein at UT Southwestern Medical Center working on IRS-2 and insulin signaling pathway. He continued to work on insulin signaling pathway and regulatory effect of SirT1 on this pathway with several independent publications. In 2012, he patented Zestern technique as the improved immunoblot technique of Western blot and Dot blot analyses. Right now, he serves as the Founder and CEO of Zestern Biotechnology LLC to promote this technique in the field of protein analysis. He believes the adoption of this technique in basic research and clinical studies would significantly improve the efficiency and accuracy of protein analysis over existing immunoblot methods.

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