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# Autoantibody biomarkers for recurrence of platinum-sensitive ovarian cancer

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The management of recurrent OVCA is a major clinical challenge because relapse after platinum-based front-line chemotherapy represents an aggressive disease state that currently has no clinical laboratory biomarkers. A recent MRC/EORTC trial demonstrated that OVCA patients with a rising CA125 who received chemotherapy treatments prior to the appearance of clinical symptoms of recurrence had no survival benefit and therefore necessarily had a diminution in quality of life. We identified 10 biomarkers with AUCs superior to p53. Our top 3 biomarkers were able to predict recurrence at a median time of 9.07 months prior to clinical recurrence of the disease with an average sensitivity, specificity, and accuracy of 94.7%, 86.7% and 93.3%, in a population where 92% (23/25) recurrent OVCA patients had CA125 less than 35 U/ml at that time. In the same patient population one year prior to clinical diagnosis, clinical CA125 data detected recurrence with a sensitivity of 8%, although all non-recurrent OVCA patients were correctly categorized by clinical CA125 data. Additional results indicated that several proteins (n=12) such as p53 known to be overexpressed in OVCA were not useful recurrence biomarkers as autoantigens. This research will lead to the development of a unique, yet simple clinical test that can determine the likelihood that a woman's platinum-sensitive ovarian cancer will recur in 6-9 months which should improve the efficacy of earlier interventions of second-line treatments.

## Biography

Professor Michael A. Tainsky, Ph.D., is an experienced molecular biologist who has been studying the molecular basis of human cancer for more than 30 years. In 1998, he came to the Karmanos Cancer Institute at Wayne State University School of Medicine, after 13 years on the faculty of the University of Texas, M.D. Anderson Cancer Center in Houston, TX and 8 years at NCI/NIH. Recently he extended his mechanistic cancer research to translational applications of genomics and proteomics to molecular diagnostics using novel the epitope cloning technology of antigen biomarkers, protein microarray immunoassays, and new informatics tools have been developed for the epitope clone choice and classification. Many laboratories have utilized this technology and some progressed to industrial-academic collaborations. He has published over 125 peer-review papers which have more than 7000 citations. In 2009 he published a book as editor in the Methods in Molecular Biology series from Humana Press on Tumor Biomarker Discovery drawing chapters from authors within and outside the EDRN including one chapter from his own lab giving detailed protocols into the Epitomics technology he developed. He has guest-edited two Special Issues of the journal Cancer Biomarkers.

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