Method of Screening for Cancer by Using and Detecting Mutations in Delta-Catenin
Case # 0307 and #1111

Technology Contact
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Overview
Prostate cancer is the second most frequently diagnosed cancer worldwide. It is also one of the most treatable cancers with a 5-year survival rate of near 100% if the disease is identified locally before it advances to androgen independent, metastatic stage. Therefore, early diagnosis and accurate disease course prediction can provide superior treatment outcome that will save lives and reduce prostate cancer death burden.

Technology
Dr. Qun Lu and Dr. Yan-Hua Chen from the Department of Anatomy and Cell Biology at the Brody School of Medicine at East Carolina University have developed a non-invasive biomarker technology that can conveniently and accurately detect prostate cancer in an unprocessed human void urine. The biomarker, delta-catenin can distinguish between prostate cancer, one of the most common forms of cancer in men, and benign prostate hyperplasia. This distinction is a significant improvement to current PSA/biopsy tests. Advancing this knowledge lead to the technology, CA25, which is an enzyme-linked sorbent assay (ELISA)-based in vitro diagnostic (IVD) platform that can be read by commercial microplate readers. CA25 is currently being examined in the clinical setting in the US and China. Preliminary studies suggest a 70% specificity for prostate cancer combined with a high rate of sensitivity.

Uses and Advantages
• Prostate Cancer
• Non-invasive
• Low-Cost
• Convenient
• Elisa-Based Biomarker Application
• Expansion into Cancer Detection of Biopsies
• Reduce the number of false-positive test results

Selected Publications

Inventor Profiles
Dr. Qun Lu is a professor in the Department of Anatomy and Cell Biology at the Brody School of Medicine at East Carolina University. His research interests include understanding the molecular mechanisms of cellular injuries, with the goals of preventing and suppressing neural injury during neurodegenerations as well as inducing cancer cell damages in cancer research.

Dr. Yan-Hua Chen is a associate professor in the Department of Anatomy and Cell Biology at the Brody School of Medicine at East Carolina University. Her laboratory studies focus on the roles of tight junction proteins in epithelial cell functions and their involvement in human diseases such as hypertension, inflammation, and cancer.