MICRODYSIS RECEIVES $106,000 RESEARCH GRANT FOR EARLY DETECTION OF PROSTATE CANCER

9/29/2008, Bordentown
MicroDysis, Inc. announced receipt of a $106,000 research and development grant from the National Cancer Institute, which is part of the National Institutes of Health. In this project, the company will demonstrate the feasibility of applying its microfabrication, fluidic array, and nanotube functionalization and assembly technologies to develop an innovative protein array platform for early detection of prostate cancer.

Microarrays are an array of spots on a substrate with a surface for molecular probe binding and detection. Protein microarrays can be used to identify protein-protein interactions, the substrates of protein kinases, or the targets of biologically active small molecules, which are essentially between a sample such as blood or cell tissue and a chemical compound such as an antibody that can detect the presence of a target compound such as a protein found in cancer within the sample. Microarrays have the potential to be an important tool for clinical analysis and diagnosis. However, adaptation of protein arrays has been slow due deficiencies in current technologies and high cost.

This SBIR Phase I study will be focused on developing highly processable and functionalized single-walled carbon nanotubes and creating a chip of microfluidic channels with carbon nanotube spots. The carbon nanotube will be achieved with highly dense functional groups to immobilize antibody molecules. Antibodies of varying size will be used to test binding efficiency and uniformity. A fluorescence immunoassay for the biomarkers of prostate cancer will be used to study protein detection specificity and detection limits.

The proposed fluidic protein array will be an easy to use, rapid, flexible, reliable, sensitive, and low-cost platform to identify and characterize multiplex biomarkers in multiple biological samples. It will overcome the limitations and problem of biodegradation present in current protein microarrays. It will provide a revolutionary tool for both research analysis and clinical diagnosis enabling earlier detection of cancers with the potential for saving thousands of lives and greatly reducing healthcare costs. The fluidic protein array will first be used in research and development in academic and pharmaceutical lab facilities. Once the technology platform is fully developed, it will be applied to the blood screening and molecular diagnostics markets.

Development of MicroDysis's platform fluidic array technology has been funded with a $390,000 award from the New Jersey Commission on Science Technology. MicroDysis is located at the Rutgers EcoComplex business incubator in Bordentown.

For more information contact:
Joseph Huang, President
1200 Florence-Columbus Road
EcoComplex Suite 212
Bordentown, NJ 08505
Tel: 609 945 0443