University of Alabama

Biomarker Reference Laboratory

Objectives

To serve as a resource for facilitating the refinement and analytical validation of biomarker assays, methodologies, and reagents and assist in and perform Network-supported validation of biomarkers.

Program Description

The Biomarker Reference Laboratory (BRL) at the University of Alabama at Birmingham functions within the EDRN to develop, modify and trouble-shoot potential methods of early detection prior to their entry into validation studies. Components of development will include conversion of methodologies to high-throughput methods, analysis of limitations, and development of standard-operating-procedures. The core group of investigators is drawn from the Program in Translational Research in Neoplasia in the Department of Pathology at UAB, and all of these investigators are committed to, and have expertise in, the analysis of biomarkers. The group includes pathologists and basic researchers with expertise in neoplastic processes of the skin, head and neck, lung, colorectum, pancreas, breast, ovary and cervix.

Expertise and Resources Available

The laboratory will provide technical expertise in, and resources for, surface-enhanced laser desorption/ionization time-of-flight mass spectroscopy (SELDI-TOF-MS), multidimensional gel analysis, protein purification, high-throughput ELISA, multiplex immunoassays, construction of tissue matrix arrays (spotted and tissue cylinders), computerized cytomorphometric analysis, immunohistochemistry (bright field, fluorescent, confocal microscopy), in situ hybridization, single and multiplex real time quantitative PCR, other PCR techniques, immunomagnetic separations, tissue resources, and experimental design of validation studies.