

Protein Services, Biomarker Discovery	
Service Title	Cancer biomarker discovery arrays
Workflow Code	PRO-CT
Short Service Description	Cancer antigen arrays for biomarker specific antibody profiling and biomarker discovery
Base Price (Price per unit)	Price on enquiry
Turn Around Time	Dependent on service package selected: 1 week for printing 100 slides each containing 4 arrays 4 weeks for analyzing 400 samples on the arrays 10 weeks for data analysis and reporting
Detailed Description and background	
<p>Protein microarrays represent miniaturized solid-phase affinity binding assays employing short peptides, whole proteins (recombinant or natural), antibodies, cell lysates or whole cells printed onto suitable microarray substrates such as coated glass microscopy slides, membranes or plastic devices. Tens, hundreds or thousands of proteins can be arrayed onto a single slide to create discrete micro-reaction sites (features) and to perform multiple assays in parallel using small reaction volumes.</p> <p>After applying suitable labels (e.g. fluorescence) to samples of interest (such as antibodies, proteins or serum) and incubation of the samples on compatible protein microarrays, binding events at individual features can be determined by measuring the amount of fluorescence label retained on each spot.</p> <p>Typical protein microarray applications include</p> <ul style="list-style-type: none"> • antibody-profiling on cell lysate arrays, protein and peptide arrays; • protein expression profiling on low-, moderate- or high-density antibody arrays; • biomarker validation in reverse phase cell lysate arrays; • drug selectivity profiling and functional characterization of polymorphic protein variants (Pharmacoproteomics). 	
Service Details	
<p>This service allows for the investigation of cancer biomarkers or the immune response of patients to therapeutic cancer vaccination using our high throughput cancer antigen protein microarray platform. This platform consists of at least 100 selected antigens that can be interrogated in a multiplex fashion. Clients can customise the assay to include any antigens of their choice. Clients can provide their own clones of interest or source them from commercial suppliers. Using our protein expression workflows, we can produce the antigens and combine them together with our existing panel of proteins.</p> <p>The service provides the following package:</p> <ul style="list-style-type: none"> - Protein arrays: Arrays of purified single proteins in recombinant or natural form for protein-protein, protein-antibody or protein-molecule interaction; - Protein array printing: Custom printing of a variety of protein array formats on a standard high-throughput QArray2 (Genetix) contact printer - Microarray hybridization: Standard protein hybridizations done in an automated processing and incubation station (Tecan HS 4800) in single, dual or quad format. Only small amounts of patient serum samples used for the assay. - Scanning: All scanning done in 4u microarray reader compatible with most existing microarray designs and formats as well as with arrays printed in 96 MTP formats - Compatibility: All Cy3 or Cy5 labelled analytes and detection antibodies 	
Applications: Discovery of disease or therapy specific biomarkers	
Service Deliverable	
Report of raw microarray data and/or analyzed data	
Sample/Info Submission Info	
Samples are accepted in batches up to and including 350 samples. Complete a sample submission form and ship on dry ice. Import permits to be organized.	
Pricing Details	Price on request

Key Words	Protein microarray, assay development, automated hybridization, cancer, vaccine development, immunotherapy, biomarkers
Sample Shipping Address	Institute of Infectious Disease and Molecular Medicine, UCT, Faculty of Health Sciences, Wernher and Beit Building, Level 2, Lab S2.09, Anzio Road, Observatory, Cape Town 7925, South Africa
Related services	Protein expression, sample preparation, Western blots, biomarker discovery, Luminex

