

## Genomics and proteomics



### Quantitative PCR probes

Gorilla Genomics introduces thousands of Omega Beacon Probe Sets for quantitative PCR-based expression analysis of human, mouse, and rat genes. Each gene-specific set includes a probe, primers, buffer, and positive-control target. Optimized bioinformatics procedures are used to design each set, and functional validation is carried out after production. Test results, including a dilution series analysis and standard curve, are provided on a certificate of analysis with each set. <http://www.gorillagenomics.com>



### Proteomics sample prep

The Montage Albumin Deplete Kit, from Proteome Systems and Millipore, is a fast, convenient, and reproducible method of improving the resolution of low-abundance proteins by electrophoresis, chromatography, or mass spectrometry. The kit's centrifugal columns are pre-packed with an affinity resin specially formulated to bind >65% albumin without binding substantial amounts of other serum or plasma proteins. It is optimized for the depletion of human albumin; however, the protocol can also be used for bovine, canine, goat, mouse, rabbit, and rat samples without protocol modifications. <http://www.millipore.com/montage>

### Protein array

Sense Proteomic's Kv subunit protein array is the first ion-channel protein array for use

by discovery biologists. It contains key human and rat potassium-channel  $\beta$ -subunit proteins. Interactions between the arrayed proteins and other potassium-channel and cellular components are recognized as potential sites for therapeutic intervention in conditions such as cardiac arrhythmia and epilepsy. The channel subunits can be interrogated to identify interacting protein pathways, and provide a cell-free method for screening new chemical entities for effects on channel-protein interactions and their potential to modulate potassium-channel function. <http://www.senseproteomic.com>



### LC-MS system

Agilent Technologies' Nanoflow Proteomics Solution is a highly integrated liquid chromatography (LC)-ion trap mass spectrometer system optimized for proteomics applications such as the identification and characterization of proteolytically digested proteins. Sample cleanup and enrichment is automated by analytical columns specially designed for nanoliter flow rates and integrated column-switching valves. A new nanoflow LC pump features active-feedback flow control that provides extremely stable and accurate flow control, resulting in more stable ion generation for higher MS sensitivity. The Nanoflow Proteomics Solution software is fully compatible with the popular Mascot protein database-search program from Matrix Science. <http://www.agilent.com/chem>

### Gel image analysis

Z4000 from Compugen is a fully automated system for accurately designing, analyzing, and controlling large-scale experiments of proteins as they appear on two-dimensional (2D) gels. Large-scale 2D gel experiments are used in the study of multiple proteomes, and allow for higher accuracy through repeat runs of gels sharing common conditions. However, they typically consist of hundreds to thousands of gels, and it is

impractical to analyze the vast numbers of gel images using traditional computer programs. Z4000 uses proprietary algorithms for both gel comparisons and the computation of differential expression of multidimensional gel collections, saving both time and computational resources for scientists undertaking large-scale studies. <http://www.cgen.com>

### Proteomics software

PDQuest 7.0 from Bio-Rad Laboratories helps eliminate a major bottleneck in protein research by automating the processing of 2D gel electrophoresis images, including spot detection, archiving gel relationships within an experiment, matching protein spots across all gels within a study, and auto-alignment for excision targeting. PDQuest is a key component of the ProteomeWorks system from Bio-Rad and Micromass. <http://www.bio-rad.com>

### High-throughput screening



### Assay for drug discovery

The DELFIA GTP Binding Assay from PerkinElmer Life Sciences is the first and only non-radiometric GTP-binding assay kit that screens new agonists and confirms secondary assays by monitoring therapeutic-induced changes in G protein-coupled receptor (GPCR) activity, a major advance over current methods because it offers a fast, simple protocol and eliminates the difficulties associated with radioactive-based assays. The proven time-resolved fluorescence technology combined with robust lanthanide labeling provides excellent sensitivity and features high signal-to-noise ratios with low background. <http://www.perkinelmer.com/lifesciences>