

## IMMUNOLOGY 2009 EXHIBITOR WORKSHOPS

Sunday, May 10

### **Clinical Trial Support: Design, Development and Testing Using Cell-Based Immune Assays**

SeraCare Life Sciences, Inc.  
37 Birch Street \* Milford, MA 01757 \* Phone: 508-244-6400 \* Fax: 508-634-3334  
Web: <http://www.seracare.com/>

8:00 AM – 9:00 AM, Room 611

*Presenter:* Deepa Patke, Ph.D.

Learn how to utilize cellular and molecular approaches to optimize research and clinical activities during drug discovery and development. We will present best practices involved in procuring, managing, and testing biological samples from preclinical and clinical studies, with an emphasis on cell based immune assays.

### **Aushon-Pierce SearchLight® Array Kits and Services for Biomarker Analysis**

Aushon BioSystems  
43 Manning Road \* Billerica, MA 01821 \* Phone: 1-877-AUSHON1 (1-877-287-4661)  
Web: [www.aushon.com](http://www.aushon.com)

9:00 AM – 10:00 AM, Room 612

*Presenter:* Scott Van Arsdell, Director, Aushon Searchlight R&D and Technical Services

Aushon SearchLight® Protein Array Kits and Services allow researchers to quantify multiple cytokines and biomarkers from a small volume of sample to generate custom protein expression profiles. The current menu offers more than 300 assays, including markers for COPD, cardiac disease, arthritis, asthma, diabetes, neurodegenerative diseases, cancer, and more. Researchers with access to a compatible CCD imaging system or IR scanner can purchase custom array kits and SearchLight Array Analyst Software for quantification of specific proteins of interest. With the Aushon SearchLight Sample Testing Service, researchers select proteins of interest, ship samples to our CLIA-certified laboratory in Woburn, MA, and receive an electronic data report within 10 business days. Custom assay development and array validation are available. Learn more about the Aushon SearchLight technology, array validation, chemiluminescent and infrared array kits, and sample testing services.

### **Antibody-Based Detection of Cytokine Expression Profiles: Arrays of Possibilities**

RayBiotech, Inc.  
3607 Park Day Lane \* Suite 200 \* Norcross, GA 30092 \* Phone: 770-729-2992 \* Fax: 770-206-2393  
Web: <http://www.raybiotech.com>

10:00 AM- 11:00 AM, Room 611

*Presenter:* Brett Burkholder

Cytokine biology is often too complex to unravel using traditional techniques of molecular biology. Cytokines commonly work synergistically or antagonistically with other cytokines, with overlapping functions and cross-talk among cytokines being the rules rather than the exceptions. Therefore, using traditional ELISA or Western-blot analysis to measure changes in just a few cytokines can give an incomplete picture of the role of these proteins in an experimental model.

Cytokine antibody arrays are multiplexed assays that can measure changes in expression of hundreds of cytokines simultaneously, allowing researchers to obtain a more global perspective on cytokine expression compared to traditional approaches. An overview of cytokine array technologies will be presented, as well as specific examples of how cytokine antibody arrays can be used to identify biomarkers, key factors and drug targets and to elucidate biochemical mechanisms and pathways.

## **The MACSQuant™ Analyzer – A New Milestone in Cell Analysis**

Miltenyi Biotec Inc.

12740 Earhart Avenue \* Auburn, CA 95002 \* Phone: 530-887-5311 \* Fax: 530-887-5312

Web: <http://www.miltenyibiotec.com>

11:00 AM - 12:00 PM, Room 612

*Presenter:* Craig Fuller, Ph.D.

Miltenyi Biotec GmbH introduces the MACSQuant™ Analyzer, a novel instrument leading science into a new era of automated cell analysis. The MACSQuant™ Analyzer boasts such innovative features as nine optical parameters, absolute cell counting, sensitive rare cell analysis facilitated by MACS® Technology, and multisample labeling and analysis of up to 96 samples all packaged in a compact benchtop design. Operated by the easy-to-use MACSQuantify™ Software on the integrated touchscreen monitor, the researcher is able to perform automated gating strategies and cell population analysis, as well as save individual settings and experimental templates. At our workshop, we invite you to view the intuitive software as well as see the advanced features of autocalibration and autocompensation in action. If time and space permits, there may also be some opportunities for hands-on operation of the software. Excite and inspire.

## **Multi-Analyte PCR Arrays, ELISArrays and Cell-Based Assays for Cytokine and TLR-Related Studies**

SABiosciences Corporation

6951 Executive Way \* Frederick, MD 21703 \* Phone: 301-682-9200 x5137 \* Fax: 301-682-7300

Web: <http://www.sabiosciences.com/>

12:00 PM - 1:00 PM, Room 611

*Presenter:* Brian McNally, Ph.D.

Understanding the biology of living cells requires a systematic survey of the gene, protein, and pathway activities within a cell. SABiosciences pioneered and continues to develop pathway-focused tools for inflammation, infection and autoimmunity. RT<sup>2</sup> Profiler PCR Arrays measure the expression of 84 related genes grouped by signaling or disease pathway. The Multi-Analyte ELISArray Kits simultaneously analyze 12 cytokines or chemokines in up to six samples using the standard ELISA protocol in a pre-optimized system. Lastly, the Signal Pathway Reporter Assays study multiple signal transduction pathways *in vivo* such as NFκB and JAK/STAT signaling. Many immunologists have already discovered the power of these technologies. Come and learn how you can use them.

## **Pathways of Innate and Adaptive Immunity: Toll-Like Receptors (TLRs) and Related Molecules as Sensory Tools to Probe Immune Response Networks**

IMGENEX Corporation

11175 Flintkote Avenue, Suite E \* San Diego, CA 92121 \* Phone: 858-642-0978 \* Fax: 858-642-0937

Web: <http://www.imgenex.com/>

1:00 PM – 2:00 PM, Room 612

*Presenter:* Lisa Stein, Ph.D.

Analysis of Toll-like Receptors, MyD88 and adapter molecules, inflammasomes and associated molecules using novel reagents will be presented. Current knowledge and an expanding appreciation of the complex and critical role of TLRs in the innate and adaptive immune response pathways will be overviewed. Various TLRs and related products including antibodies, peptide inhibitors, and TLR agonists will be demonstrated as probe sets for profiling the regulatory network of the innate and adaptive immune response through new assay systems and applications. Examples of assay systems- for Cell Analysis using flow cytometry, for Proteomic Analysis using western blotting and arrays, and for Molecular Analysis – will be presented as models for use in studies of TLRs and associated molecules and their involvement in normal and disease related areas including:

Autoimmunity \* Vaccine Development \* Signaling Pathways \* Immunoregulation \* Cancer

## **Evolution and the Chemokine Superfamily**

BioLegend, Inc.

11080 Roselle Street \* San Diego, CA 92121 \* Phone: 858-455-9588 \* Fax: 858-455-9587

Web: <http://www.biolegend.com>

2:00 PM – 3:00 PM, Room 611

*Presenter:* Albert Zlotnik, Ph.D.

The chemokines can be divided into inflammatory and homeostatic; each one of these subfamilies has been shaped by evolutionary forces. These characteristics also apply to many other molecular superfamilies. Inflammatory chemokines are located together in specific chromosomal loci, while homeostatic chemokines are located in isolated chromosomal sites. This organization is the result of gene duplication events that have shaped this superfamily, and also explains the lack of correlation of some chemokines between the mouse and the human genomes. The homeostatic chemokines exhibit strong conservation throughout evolution, while the inflammatory chemokines are among the most dynamic genes present in the genome. The latter feature helps organisms cope with new infectious agents.

## **Highly Sensitive Biomarker Immunoassays: Development, Validation, and Novel TH17 Multiplex Immunoassay Panels**

BioLegend, Inc.

11080 Roselle Street \* San Diego, CA 92121 \* Phone: 858-455-9588 \* Fax: 858-455-9587

Web: <http://www.biolegend.com>

3:00 PM – 4:00 PM, Room 611

*Presenter:* Shaoquan Ji, Ph.D.

BioLegend is a major supplier of reagents for biomedical researchers, offering a wide range of antibodies, immunoassay kits, assay development and sample testing services. These products and services use multiple technological platforms including single and multiplex immunoassays (LEGEND MAX™ ELISA, AlphaLISA®, LEGENDplex™ xMAP®, and LEGENDArray™ Flow Cytometric bead-based assays). The workshop will discuss immunoassay development processes, analytical and biological validation criteria to ensure sensitive, accurate, and reproducible quantification of targets in samples. Specific discussion will focus on the development of novel bead-based multiplex assays for human and mouse TH17 cytokines and on AlphaLISA® assays. The latter is able to quantify targets with sensitivities at fg/ml with a broader dynamic range (> 106). Simple and non-wash protocols can be easily automated. In summary, the wide array of reagents and services available from BioLegend will provide simple solutions to meet the needs of researchers, guaranteed with BioLegend's quality, value pricing, and expert support.

## **Fas Ligand and TRAIL Are Required for Thymic Graft-versus-Host-Disease after Allogeneic Bone Marrow Transplantation**

BD Biosciences

10975 Torreyana Road \* San Diego, CA 92121 \* Phone: 858-812-8884 \* Fax: 858-812-3739

Web: <http://www.bdbiosciences.com/>

4:00 PM – 5:00 PM, Room 612

*Presenters:* Sydney X. Lu, Il-Kang Na, Lori Howe, Catherine McIntyre, Dennis Sasaki, Robert Balderas, and Marcel R.M. van den Brink

Thymic GVHD (tGVHD), which is mediated by alloreactive T cells, causes delayed lymphoid recovery after allogeneic bone marrow transplantation. However, the identity of which thymic cell subsets are damaged, and their sensitivity to specific cytolytic pathways, remains unclear. Thymic stromal cells, in particular, are heterogeneous and require multiple markers to define, and we therefore collaborated with the BD Biosciences R&D group to evolve an 11-color antibody staining panel for the LSR II, which allowed for detailed analyses of these cells. Using clinically relevant allo-BMT models, we show that small numbers of donor alloreactive T cells insufficient to mediate lethal GVHD are nonetheless sufficient to damage the thymus and delay T lineage reconstitution. Furthermore, these donor alloreactive T cells require a variety of trafficking and co-inhibitory/co-stimulatory molecules to mediate disease. We found that radiation in bone marrow transplant conditioning regimens upregulates expression of the death receptors Fas and DR5 on thymic stromal cells (especially epithelium) while decreasing their expression of the anti-apoptotic protein cFLIP. Donor alloreactive T cells then utilize the cognate proteins Fas ligand and TRAIL to mediate tGVHD, thus damaging thymic stromal cells and function. Strategies that interfere with Fas/Fas ligand and TRAIL/DR5 signals may represent a strategy to attenuate tGVHD.