

Rodent Cytokine Detection in Health and Disease

28th January 2004, Birkbeck College, London

Chair - Dr. Sonia Quaratino, University of Southampton

Meeting Highlights

Multiplex Cytokine Detection Assays using Luminex Technology

Dr Frazer Smith – Upstate Ltd

This talk will summarise the principles behind Luminex technology and the applications of Beadlyte multiplex assays, specifically focusing on cytokine detection.

Assessing the impact of drug therapy on cytokine expression in experimental arthritis

Dr Richard Williams - Kennedy Institute of Rheumatology Division, Imperial College, London

There is currently a great deal of interest in identifying compounds capable of modulating pro-inflammatory cytokine expression in rheumatoid arthritis. This work is greatly facilitated by the use of animal models, such as collagen-induced arthritis, in which the effect of novel drugs on cytokine expression can be monitored in blood, lymph nodes, spleen and joints.

It's all in the Phenotype - Applications of Multi-Analyte Profiling technology in Drug Discovery

Dr Ralph McDade - Charles River UK LTD

Multi-Analyte Profiles (MAPs) precisely measure hundreds of plasma analytes in as little as 10 µL of sample, including biomarkers for infectious disease, cancer, cardiovascular disease, autoimmunity, metabolic disorders, and inflammation, as well as cytokine/chemokines, hormones, acute-phase reactants, and other plasma proteins. Patterning of the data generated by these comprehensive immunoassay panels is providing enormous insight into the intricate balance of biochemical systems.

Measurement of Cytokines: do you really know how much?

Stephen Hopkins - Hope Hospital and University of Manchester

Like most protein hormones, cytokines are appropriately defined in terms of their biological activity, mediated via specific cellular receptors. However, it is now more common to measure their concentration, or associated gene expression, using physical methods as an approximation to activity. While less subject to many interfering biological variables, these methods can still be problematical and may produce answers that are difficult to interpret accurately. Particular attention is paid to the assay format used, but other factors can influence measurements, including the assay matrix and reagents. These issues will be discussed in term of immunoassays and quantitative gene expression.

FastQuant – High Throughput Multiplex Cytokine Quantification System

Mr John Dinan - Whatman Schleicher & Schuell

The FastQuant Kit enables researchers to simultaneously quantify the concentration levels of multiple cytokines (human and mouse) from small volumes of sample. It delivers over 10X the amount of data compared with traditional ELISA techniques and takes approximately the same time to run. I will give a brief introduction to protein microarray and present FastQuant compared with ELISA techniques.

Determining cytokine levels from small sample volumes in vaccine studies

Prof. Kjell-Olov Grönvik - Gyros AB, Sweden

Gyrolab Bioaffy™, an automated solution for performing sandwich immunoassays at nanoliter scale, was evaluated in parallel with ELISA for quantification of IL-2, IFN- γ , IL-4 and IL-10 in mice immunized against porcine parvovirus (PPV) using different adjuvants. The precision and limit of detection of the two methods were similar, yet Gyrolab Bioaffy demonstrated a 5-10 times broader measurement range, consumed 100-fold less sample and reagents and assay times were significantly reduced. Moreover, it was possible to detect both IL-4 and IL-10 in the sera of vaccinated animals using the Gyrolab Bioaffy method whereas ELISA failed.

Elispot Analysis in Disease Models

Dr Matthew Baker - CTL Europe GmbH

Outline of Elispot technique and advantages of cytokine analysis by Elispot assays. Examples from murine disease models will be used to highlight the sensitivity and versatility of the assay. Factors that effect Elispot assays will also be discussed and technical details for optimizing Elispot assays will be presented.



Standard fee - £160

Student fee - £80

This meeting has been granted CPD creditation