**THE MIDWINTER CONFERENCE OF IMMUNOLOGISTS**

# POSTER ABSTRACT

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## Fluorescent Bead Immunoassays For The Simultaneous Detection Of 10 Th1/Th2 Cytokines On A Flow Cytometer

Bead-based multiplexed assays are becoming increasingly popular, because this new technique is enabling the simultaneous detection and quantification of multiple analytes in a single sample. One popular application measures a battery of cytokines to get an overview on Th1/Th2 specific immune response. Bender MedSystems (BMS) developed such bead-based assays based on the LUMINEX technology to be measured on a special instrument designed by LUMINEX. Further Bender MedSystems has recently developed Fluorescent Bead Immunoassays (FBI) that can now be carried out using commonly available flow cytometers. So far the limitation using color coded microspheres for FACS was that no more than five or six bead populations with distinct fluorescent intensities could be distinguished in one fluorescent channel. BMS FACS-FBIs take the advantage of flow cytometers distinguishing not only fluorescent intensities of microspheres but also their size. In a first step BMS FACS-FBIs contain bead-sets of two different sizes and 5 different fluorescent intensities for each size, resulting in the possibility to measure the ten most important Th1/Th2 and also pro- and anti-inflammatory cytokines. The kits allow a high degree of flexibility and an individual combination of any of the ten cytokines. Data from FACS are processed very conveniently by a software module supplied by BMS. The results and test characteristics are comparable to conventional ELISAs. Further in the pipeline are kits for mouse cytokines and human cardiovascular markers.