The Immunology Institute's *Antibody Characterization and Serology* (ACS) Recharge Facility

Davide Botta[1], Fen Zhou[2], Kianna A. Arrington[1], Yuting Lin[1], Carol A. Ballinger[1], Paul A. Goepfert[1,3], Troy D. Randall[1,4] and Frances E. Lund[1,2]

UAB MEDICINE
Immunology Institute

[1]The Heersink School of Medicine Immunology Institute, UAB, Birmingham, AL, USA. [2]Department of Microbiology, UAB, Birmingham, AL, USA.
[3]Department of Medicine, Division of Infectious Diseases, UAB, Birmingham , AL, USA.
[4]Department of Medicine, Division of Clinical Immunology and Rheumatology, UAB, Birmingham, AL, USA.

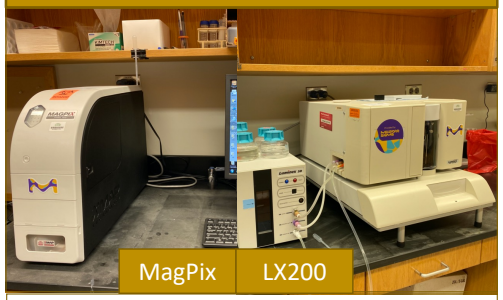
Introduction

The purpose of the **Antibody Characterization and Serology** (**ACS**) recharge facility is to offer research reagents, multiplex immunoassays and high-throughput technologies that help researchers quantitatively measure multiplexed cytokines and other biomarkers present in serum/plasma and other samples. In addition, the **ACS** can quantitate B cell or antibody responses to self-antigens, allo-antigens and proteins derived from allergens and pathogens. Finally, the **ACS** can assess biomolecular interactions in real-time and in a high-throughput manner.

Services

1. Measurement and quantitation of antigen-specific antibodies using antigen-multiplexed cytometric bead arrays (CBA).
2. Measurement and quantitation of highly multiplexed cytokines and other markers by Luminex® xMAP® technology.
3. Production and delivery of viral recombinant antigens (including biotin-labelled antigens) and B-cell tetramers to investigate B cell responses to vaccines and pathogens.
4. Analysis of biomolecular interactions (e.g. protein/protein or protein/drug interactions) using the high-throughput Alto surface plasmon resonance (SPR) system.

Luminex multiplexing services

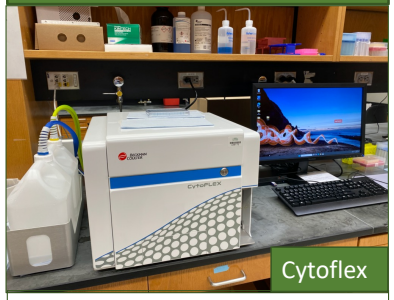


Measures up to 80 proteins in a 25 µl sample (pg/ml sensitivity).

Up to 80 samples per assay (serum, plasma, sups, BAL, etc…).

>500 human analytes available, including cytokines/chemokines.

Cytometric Bead Array services

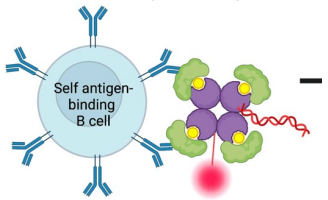


Simultaneous measurement of antigen-specific Abs (IgG, IgM, IgA).

Available arrays for β-Coronaviruses and Influenza antigens.

Flexible system configurable to 18 antigens in a single assay.

Research reagents



Tetramers & antigens

31 influenza and coronavirus antigens (+/- biotinylation).

66 influenza and coronavirus B cell tetramers conjugated up to 4 different fluorochromes.

Ab binding kinetics services

High-throughput, benchtop Surface Plasmon Resonance (SPR) system.

Handling of 2 µl sample volumes.

Applications: Kinetics/affinity characterization, epitope mapping/binning, quantitation.

Location

Shelby Interdisciplinary Biomedical Research Building (SHEL)
Room 571

Manager

Davide Botta

dbotta@uab.edu

Operator

Fen Zhou

fzhou@uab.edu