



Tuesday, February 22

12:30 PM – 2:00 PM

Esplanade, Room 158

Fluidic Analytics

Introducing Microfluidic Diffusional Sizing (MDS) Technology; Quantify and Characterize Any Protein Interaction – Even In Complex Backgrounds, Even With Challenging Targets

Studying protein interactions is of fundamental importance in a wide variety of research fields, including neurobiology, oncology, immunology, structural biology, and molecular biology.

The more scientists understand about protein interactions, the more we will know about the inner workings of a cell, and crucially, the better we will understand what happens when normal cellular function is subverted in human disease. But, with a multitude of different technologies on the market, how do researchers know which technique is right for them?

Microfluidic Diffusion Sizing technology (MDS) brings a new tool to the analytical characterization toolbox: a different approach that enables the analysis of protein interactions close to *in vivo* conditions.

Measuring What Matters

Scientists can now determine affinity of interaction (K_D), concentration of bound protein, and stoichiometric information, in solution, and all in a single experiment, whether using simple biological buffer systems or complex backgrounds such as serum, plasma, saliva, and cell lysates.

The MDS technology enables quantification and characterization of any protein interaction – even in complex backgrounds or with challenging targets:

- Characterize polyclonal antibodies
- Track functional immune response in serum samples
- Reveal therapeutic antibody / protein interaction mechanisms
- Characterize disordered proteins or higher-order complexes under close to *in vivo* conditions
- Explore aggregation effects and distinguish between specific and non-specific binding

During our presentation we will describe a series of case studies and collaborations with pioneering researchers covering such topics:

- Elucidating mechanism of action of Aducanumab in Alzheimer's Disease
A collaboration with Professor Sara Linse, University of Lund, Sweden
- MDS enables the investigation of viral variants in infectious disease;
A collaboration with Professor Akiko Iwasaki, Yale University School of Medicine Howard Hughes Medical Institute
- Characterizing the immune response to viral infections:
A collaboration with Professor Adriano Aguzzi University Hospital Zurich and Professor Tuomas Knowles University of Cambridge
- In-Solution Affinity Measurement of a Drug-Induced Protein Complex

Speaker

Molly Coseno, Field Application Specialist, NE, Fluidic Analytics