



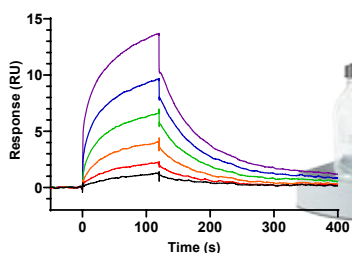
We have the experience and instrumentation to characterize a wide variety of macromolecular interactions. Most commonly, protein:protein, protein:peptide, protein:nucleic acid – including DNA, RNA and PNA, as well as protein:small molecule and protein:fragment interactions. We can collect data or provide user training on a variety of instrumentation, with experiments best focused to your research needs.

Surface Plasmon Resonance (SPR)

Surface plasmon resonance (SPR) is an optical technique that can be used to measure interactions in real time.

A typical experiment involves a ligand immobilized to the surface of an SPR sensor chip, either directly or via an affinity tag. The analyte is then flown over the surface in increasing concentrations. If an interaction occurs, the change in mass on the sensor surface is detected and plotted as an output sensorgram.

Measures: Affinity (KD) and kinetics (on & off rates). Range μM - mM



Biacore T200

Microscale Thermophoresis (MST)

Microscale Thermophoresis (MST) measures changes to the mobility of molecules in microscopic temperature gradients

The instrument can detect changes to the size, charge and hydration shell of molecules with high sensitivity

Performed in solution, and while requiring one partner to be fluorescently labelled, MST can measure a wide variety of interaction types, including molecules such as

liposomes, nanodiscs or membrane proteins.

Measures: Affinity (KD). Range nM - mM



CRICOS 00026A

Nanotemper Monolith NT.115

BiLayer Interferometry

BiLayer interferometry is an optical analytical technique that assesses the interference pattern of white light reflected upon binding of a partner molecule across two surfaces: a layer of immobilized protein on the biosensor tip, and an internal reference layer.

Differences in response are used to determine interaction strength. The Blitz instrument is not as sensitive as SPR, but uses a smaller sample volume.

Measures: Affinity (KD) and kinetics (on + off rates). Range μM - mM



Isothermal Titration Calorimetry (ITC)

Isothermal Titration Calorimetry (ITC) measures in-solution, the binding affinity between any two molecules that either release or absorb heat when a binding interaction occurs.

The instrument measures the heat difference between a sample cell and a reference cell that occurs upon titration of increasing amount of a binding partner, and uses it to determine affinity, as well as additional parameters.

Measures: Affinity (KD), stoichiometry(n), enthalpy (DH) and entropy (DS). Range: nM - mM



PEAQ MicroCal ITC

For more information

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