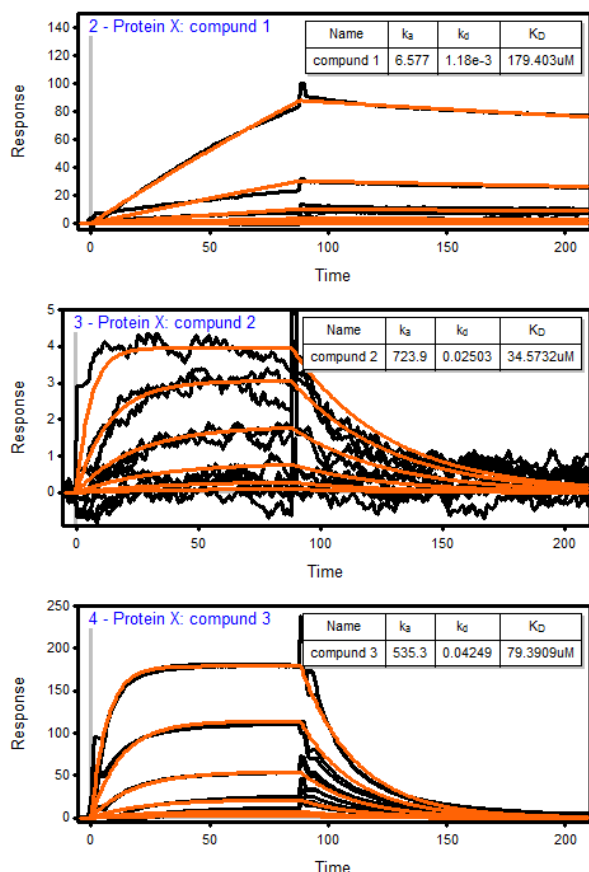


Surface Plasmon Resonance (SPR)

An optical detection system based on the phenomenon of surface plasmon resonance (SPR) measures the change in refractive index at a biosensor surface as analyte mass accumulates via binding to an attached ligand. This allows derivation of affinity (K_D) from measured kinetic rates of association (k_a) and dissociation (k_d).



Sensorgrams of 3 different small molecules from a 10,000 compound screen each showing a different mode of binding to the same protein.

XTAL maintains and operates Biopix 404pi enhanced surface plasmon resonance (eSPR) instruments in house, which offers label-free, real-time detection of biomolecular interactions at extremely high sensitivity down to 100Da, and with low noise.

The novel ultra-sensitive detection platform of the Biopix 404pi combines high sensitivity with a microarray detection capability. The four needle autosampler and four parallel flow cells design allow operation in high throughput mode with four times the throughput of a conventional SPR instrument while maintaining sensitivity. The Biopix 404pi can also be operated in a high resolution mode for more detailed analysis of molecular interactions. Its fluidics cartridge is designed to prevent blockage. Biopix 404pi's industry standard Scrubber 2 software can be used while the instrument is in operation, allowing one user to design the experiment while another is running an experiment. Applications of Biopix 404pi include detection of protein-protein, protein-small molecule, protein-nucleic acid, and antibody-antigen interactions; measurement of kinetics and affinities; epitope binning; biomolecule concentration measurements; immunogenicity screening etc.



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