Nuclear Magnetic Resonance (NMR) with Automated Sampling

- A SampleJet auto sampler is mounted on our 600 MHz NMR instrument.
- This allows us to automate data collection for up to 480 samples.
- The auto sampler has individual refrigerated racks for optimal temperature control of samples.

- NMR is routinely used to run FBDD screening and validation experiments using both protein-detect and ligand-detect methods for protein:fragment interactions as part of the FBDD workflow.
- The facility also has experience measuring protein:protein, protein:nucleic acid and protein:small molecule interactions using NMR, as well as using NMR to determine protein and protein:small molecule structures.

- In addition to FBDD work, the facility has collected and analyzed metabolomics data sets for a variety of sample types, including human and animal serum, plasma, urine and faeces, along with a variety of different tissue extracts.

Surface Plasmon Resonance (SPR)

- SPR is a technique that allows for the measurement of a variety of biomolecular interactions.
- In SPR the target of interest is immobilised on the surface of a chip, and possible interaction partners are flowed across the surface, and interactions measured.

- We have successfully used this technique within the facility to measure protein:protein, protein:peptide and protein:small molecule interactions for a wide variety of targets, and using several different immobilization strategies.

- We plan to develop SPR capacity in the facility with the addition of a new SPR system with integrated robotics to enhance our capacity for high throughput sampling under automation.

For more information

Research Portfolio | Sydney Analytical – Drug Discovery
T +61 2 9036 5179
Staff Scientist
T +61 2 9351 3746 | Elorna.white@Sydney.edu.au