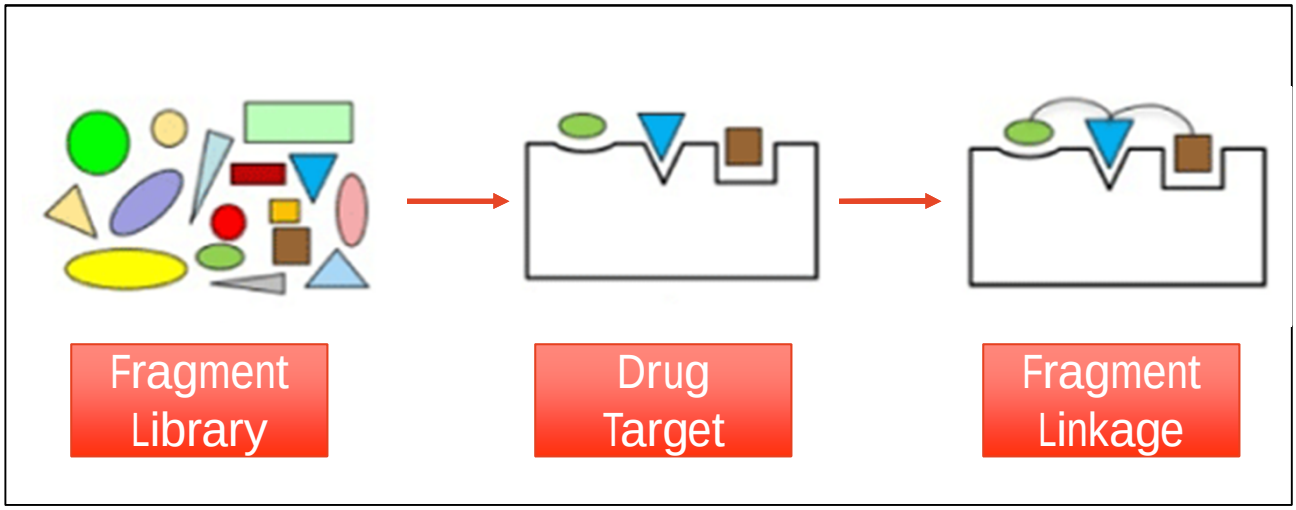
THE UNIVERSITY OF SYDNEY

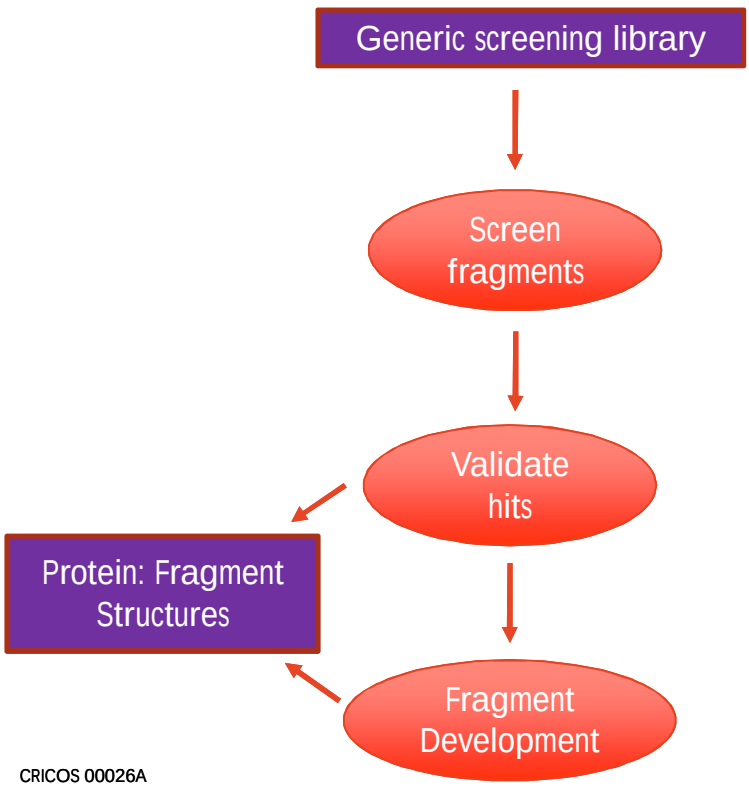
Sydney Analytical
Fragment Based Drug Discovery



Fragment Based Drug Discovery (FBDD)

FBDD is an important and growing area of research. It provides a viable alternative to High Throughput Screening (HTS) as a way of producing lead compounds for previously intractable biological targets. An FBDD approach can target whatever you like – be it bacterial proteins to develop new antibiotics, human proteins that may be anti-cancer targets, and even membrane proteins.

FBDD Project Workflow



Our fragment library has been curated by medicinal chemists at Monash University. It contains 1100 fragments, covering significant portions of chemical space, and has been through extensive quality control.

The target protein is screened against the fragment library using NMR. This is carried out using cocktails of fragments. Data is processed using mNova software

Validation experiments are conducted using individual fragments. They are conducted using a variety of techniques, including Nuclear Magnetic Resonance (NMR), Surface Plasmon Resonance (SPR) and crystallization.

Fragment develop seeks to generate a "Structure Activity Relationship" (SAR). This is done using an "SAR by catalogue" approach, where fragment analogues are designed in-silico, and then purchased.