

Industrial research using Diamond

DRUG DISCOVERY

The eternal dream to explore matter at its deepest level has continually driven scientists to build more and more powerful instruments from simple microscopes to elaborate X-ray sources.

Diamond Light Source is a sophisticated synchrotron light facility which can generate highly intense beams of light ranging from IR and UV to

X-rays, all of which are making research at the cutting edge of modern science possible. Diamond provides specialist analytical techniques for the atomic to microscale characterisation of materials as diverse as novel pharmaceuticals, catalytic materials, coatings, motor oils, and large engineering components.

Our dedicated Industrial Liaison Team of highly skilled

scientists is available to support you in every step of your research. The team can help to translate your R&D challenges into meaningful analytical solutions by making use of its diverse expertise in synchrotron methods.

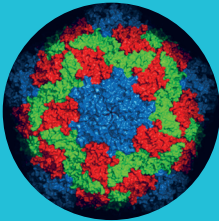
Some examples of how Diamond can be used for drug discovery research and development are outlined overleaf.



Our techniques

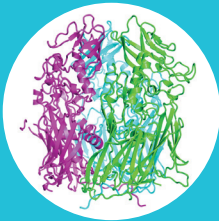
Macromolecular crystallography (MX)

- Access to innovative and high performance beamlines;
- Extensive sample storage capacity (up to 600 samples);
- Fast robotics, state of the art detectors and robust and reliable data processing pipelines;
- Precise sample centring routine;
- *In situ* data collection.



Fragment screening (XChem)

- Screening of 100s of compounds from readily available libraries using MX;
- Automated data collection with secure sample tracking;
- Easy extraction of hits via a dedicated processing infrastructure.



Cryo-electron microscopy

- Dedicated, state-of-the-art Titan Krios and Glacios microscopes and detectors;
- Unique data storage and processing infrastructure;
- Expertise in cryo-electron microscopy for single particle analysis and cryo-tomography;
- In-house screening facility.

Solution protein characterisation

- Dedicated BioSAXS and CD beamlines;
- Ability to determine protein conformation, multi-subunit complexes and oligomeric states;
- Screening of various formulations/buffers for protein stability.

SF-DDS-007-2



For further information

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