The National Institute for Cellular Biotechnology (NICB) is a multidisciplinary centre of research in fundamental and applied cellular biology, cancer, biotechnology, molecular cell biology, ocular diseases and biological chemistry. We offer a range of research and problem-solving services to clinical collaborators and to industry.

Who are we?

The NICB provides lecture courses in cell biology, proteomics and translational research. We also conduct training courses in cell culture techniques and lecture programmes for the public.

Education & Training

The NICB’s Proteomics Core Facility is well equipped with instrumentation for protein identification, characterization and quantitation

- LTQ Orbitrap XL mass spectrometer
- LTQ XL mass spectrometer equipped with ETD
- 4800 Plus MALDI TOF TOF mass spectrometer
- Progenesis QI for Proteomics
- TSQ Vantage Triple Quadrupole for quantitative SRM/MRM applications
- Equipment and software for 2D Difference Gel Electrophoresis (2D DIGE)
- Luminex xMAP system for multiplex ELISA

Proteomics

The NICB contains the most extensive cell culture facilities of any research institute in Ireland.

Cell Culture

The cell bank contains hundreds of different cell line models, allowing researchers to study multiple tissue types, various disease states and bioprocess-relevant phenotypes.

NICB’s strongest asset is the store of cell culture expertise resident in the staff, making the NICB the leading centre for cellular biotechnology research in Ireland.
The NICB is equipped a wide range of specialised equipment for visualising cells and analysing cell populations, including:

- Leica SP2 AOBs Confocal Microscope
- NIKON white light TIRF microscope
- BD FACS Aria cell sorter

Cell Characterisation

The NICB has extensive experience in expression microarray and NGS experiments, utilising cells from tissue culture as well as clinical specimens. The Bioinformatics Core Facility provides a centralized resource in the design of experiments and the analysis of data, as well as actively collaborating with external researchers both nationally and internationally.

Genomics & Bioinformatics

The Functional Genomics laboratory comprises a wide range of equipment and expertise including:

- Guava EasyCyte Plus benchtop flow cytometer
- AB7500, AB7900HT qRT-PCR instruments
- QX100 digital droplet PCR platform
- Kuhner controlled environment shaker-incubators
- Sartorius-Stedim BIOSTAT 2L bioreactors
- Specialist plasmid vector design and construction

Functional Genomics

The NICB Synthetic Chemistry group is involved in the development and application of targeted molecular libraries and is now increasingly active in the field of hybrid materials for biological applications.

Synthetic Chemistry