

Scientific facilities available at the Babraham Institute



Lipidomics

The Babraham Institute provides unique research facilities of national importance. These have been developed with significant investment from the BBSRC. The Lipidomics Facility has established a series of LC-MS/MS, GC-MS/MS and HR/AM direct infusion mass spectrometric methods to analyse 37 classes of neutral lipids, phospholipids and sphingolipids from various biomedical samples. Thousands of cell culture, animal tissue and human clinical samples have been analysed as part of collaborations with Babraham Institute research groups, UK, Europe and US universities and global pharmaceutical companies.

The Technology

For high-throughput analysis of major structural and metabolic lipids, the crude lipid extracts are dissolved in suitable solvents and directly infused into mass spectrometers for ESI-HR/AM-MS/MS analysis.

For analysis of minor and trace lipids with biomedical significance, the lipid extracts are separated into different classes by normal phase HPLC based on the polarity of the head group, and then infused into mass spectrometers for analysis.

For non-polar to low polar lipids and some metabolites, GC-MS/MS approaches are used for analysis with or without derivatisation.

Equipment

- Thermo Orbitrap Elite hyphenated with Shimadzu Prominence HPLC with 5 pumps
- AB Sciex 6500 QTRAP hyphenated with Shimadzu Prominence HPLC with 5 pumps
- Thermo TSQ Quantum GC-MS/MS system (shared)
- Advion TriVisa NanoMate
- Thermo SpeedVac
- Eppendorf Centrifuge 5430R and 5804A
- Harvard Phd/Ultra syringe pump

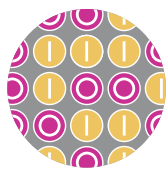
Pricing

The Lipidomics Facility can analyse most lipids and metabolites with biomedical interest and can provide quotes for specific projects.

As different analytes requires different sample pre-treatment and different analytical approaches to obtain satisfactory results, costs vary according to the proposed project.



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Bioinformatics

The Bioinformatics group have a wide range of experience covering virtually all aspects of modern bioinformatics and statistics in both academic and commercial settings.



Biological Chemistry

The Biological Chemistry Facility provides a research capability to solve biological problems through the use of chemical knowledge and synthetic chemistry skills.



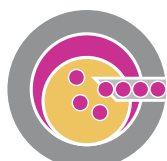
Biological Support Unit

The Biological Support Unit (BSU) provides housing and care for rodents at a highly defined health status, offering the highest standards of welfare, excellence in husbandry and procedural technique to support both academic scientific research programmes and private companies.



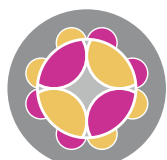
Flow Cytometry

The Flow Cytometry Facility offers high quality service and state-of-the-art instrumentation to members of the Babraham Institute and external companies, including those based on the Babraham Research Campus.



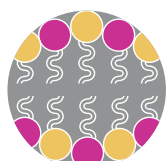
Gene Targeting

The Babraham Gene Targeting Facility provides a complete service to generate novel genetically altered mouse strains for biopharmaceutical companies and academic institutes.



Imaging

The Imaging Facility provides supported access to state-of-the-art fluorescence imaging technologies and offers expertise in live and fixed cell imaging.



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Mass Spectrometry

The Mass Spectrometry Facility is equipped with a range of high resolution systems, which can be used for the identification, characterisation and quantitation of almost any type of biomolecule.



Sequencing

The Next Generation Sequencing Facility provides library quality control and sequencing services for the Babraham Institute and external companies, offering a variety of sequencing solutions for different project sizes and a broad range of applications.

