



AGILENT INTEGRATED BIOLOGY FACILITY @ MONASH MALAYSIA

The Agilent Integrated Biology Facility @ Monash Malaysia (AIBF) was established to complement and enhance the analytical capabilities of the Proteomics and Metabolomics Platform.

The facility was realised after the signing ceremony between Monash University Malaysia and Agilent Technologies on 14 October 2022, as a research laboratory equipped with state-of-the-art equipment comprising the GC-MS, Triple QQQ LCMS, Supercritical Fluid Chromatography and the Bio-LC systems.

Along with the additional atomic absorption to study heavy metal pollutants, the facility is shared between Monash Malaysia and Agilent Technologies.

EXPERTISE

- Protein and Small Molecule Quantitation - the platform employs cutting-edge techniques and advanced analytical methods to quantify proteins and small molecules with high sensitivity and specificity. The Agilent 6495C QQQ LCMS can determine the concentration or abundance of proteins and small molecules in various biological samples.
- Volatile and Semi-Volatile Compound Analysis - the GC/MSD system can detect and characterise volatile and semi-volatile compounds with high precision. We can perform targeted analysis of small molecules, such as metabolites, environmental contaminants, or drug compounds.
- Complex Biomolecules Analysis - Bio-LC system enables the separation and analysis of complex biomolecules such as proteins, peptides, nucleic acids, and metabolites. SFC system is a state-of-the-art instrument combining the advantages of liquid and gas chromatography techniques. It offers excellent efficiency, speed, and selectivity, making it ideal for analysing chiral compounds, lipids, natural products, and other challenging samples.

KEY INSTRUMENTATION

- Agilent 6495C Triple Quad LC/MS
- Agilent 5977 GC/MSD
- Agilent 1290 Infinity II Bio-LC System
- Agilent 1260 Infinity II SFC System (Supercritical Fluid Chromatography)

WORKING WITH US

- Collaborative research
- Training
- Consultancies

Specialist Services

The Agilent Integrated Biology Facility at Monash Malaysia is a cutting-edge research facility with state-of-the-art instrumentation to support various biological studies. Our highly skilled team of experts provides specialised services utilising these instruments, covering various biology and analytical chemistry areas. From targeted analysis of small molecules and metabolites to protein identification, characterisation, and quantitation, we offer comprehensive solutions for bioanalysis, metabolomics, proteomics, and pharmaceutical research.

Specialist Service 1: Agilent 6495C Triple Quadrupole LCMS

Agilent 6495C QQQ LCMS provides exceptional capabilities for both protein and small molecule absolute quantitation, and researchers/scientists can gain accurate, precise, and reliable quantitation of these molecules in their samples. This service supports various applications, including biomarker discovery, drug development, pharmacokinetics, environmental analysis, and metabolomics research.

Specialist Service #2: Agilent 5977C GC/MSD

The Agilent 5977C GC/MSD offers exceptional sensitivity, selectivity, and versatility, making it ideal for identifying and characterising volatile and semi-volatile compounds in complex samples. Applications include analysis of organic compounds, such as pesticides, environmental contaminants, drugs, metabolites, and other volatile substances.

Specialist Service #3: Agilent 1290 Infinity II Bio-LC

The Agilent 1290 Infinity II Bio-LC system, with its unique high-pressure capabilities, exceptional resolution, and sensitive detection, this instrument enables accurate separation, identification, and quantification of target compounds in biological samples by its chromatographic capabilities. Our service covers various bioanalytical applications, including protein characterisation, biomarker discovery, drug metabolism studies, metabolomics, and more.

Specialist Service #4: Agilent 1260 Infinity II Supercritical Fluid Chromatography

The Agilent 1260 Infinity II SFC (Supercritical Fluid Chromatography) service at our facility offers advanced analytical chromatographic capabilities for precise and efficient separation and analysis of complex mixtures such as chiral compound analysis, lipid profiling, natural product characterisation, pharmaceutical research, and more. This Agilent 1260 Infinity II SFC system is particularly suited for complex matrices and difficult-to-separate compounds.

Specialist Service #5: Proteomics And Metabolomics Services

With the Monash University Malaysia Proteomics and Metabolomics Platform, the Agilent Integrated Biology Facility offers a range of comprehensive proteomics and metabolomics services. Please refer to the Proteomics and Metabolomics Platform flyer for more information.

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