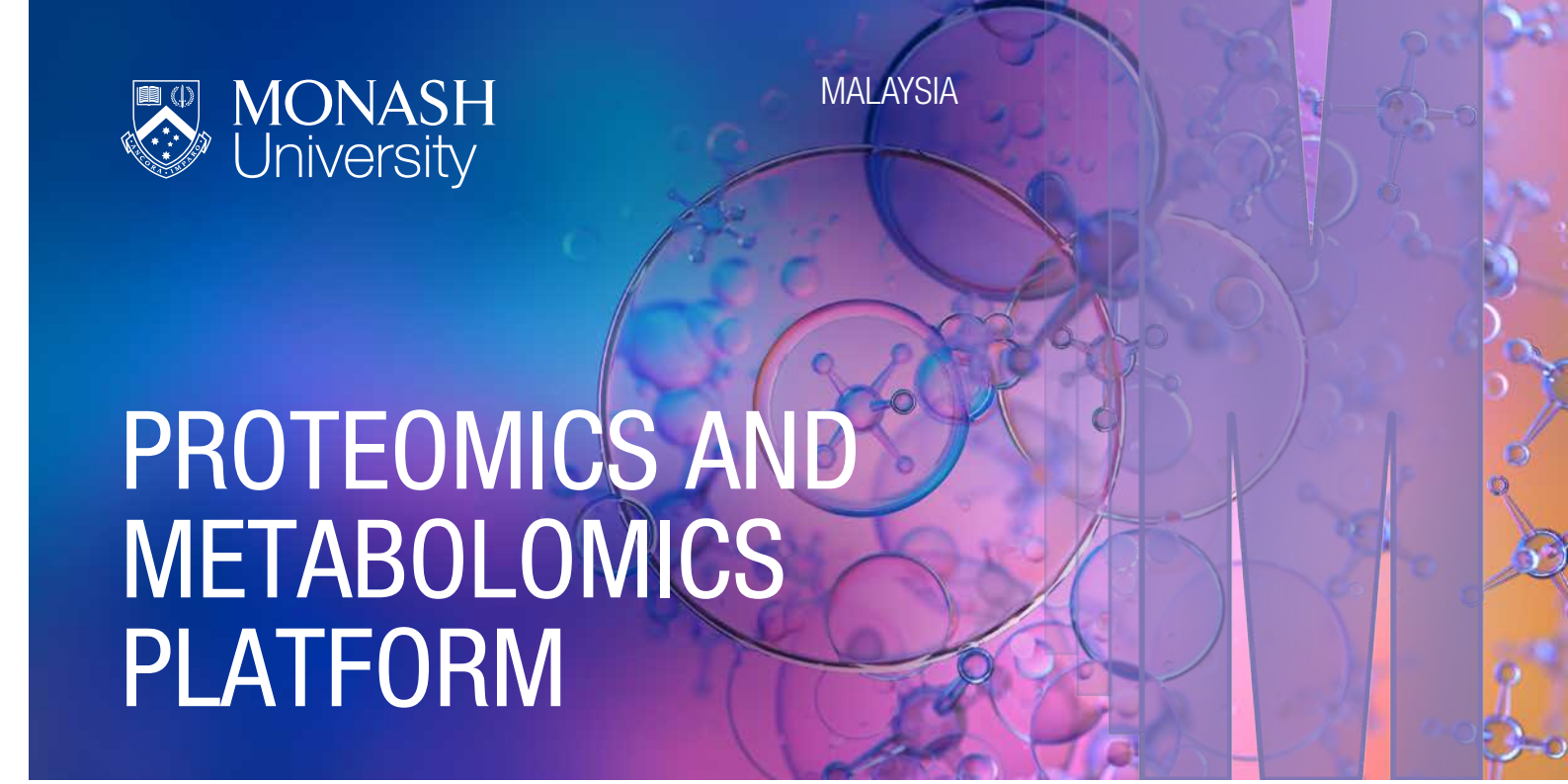
MONASH University

MALAYSIA



PROTEOMICS AND METABOLOMICS PLATFORM

Monash University Malaysia's Proteomics and Metabolomics Platform is an advanced research facility dedicated to studying proteins and metabolites in all biological systems. Equipped with state-of-the-art instrumentation and cutting-edge technologies, the platform enables scientists to delve into the intricacies of cellular processes and disease mechanisms.

Liquid chromatography-mass spectrometry (LC-MS) is a key instrumentation within the platform. The LC-MS system can be applied in diverse research fields such as translational research, clinical diagnostics, drug discovery, environmental sciences, food and beverage assessment and industrial materials.

EXPERTISE

- Proteomics - Comprehensive study of proteins within biological systems that involves the identification, characterisation, and quantification of proteins to unravel their functions, interactions, and modifications.
- Metabolomics - Comprehensive analysis of small molecules, known as metabolites, within biological systems. It aims to understand the dynamic metabolic processes occurring in cells, tissues, or organisms.
- Other 'Omics' - These 'omics' disciplines, including lipidomics, glycomics, and phosphoproteomics, provide valuable insights into the roles of lipids, glycans, and phosphorylation events in cellular functions, disease mechanisms, and therapeutic strategies.

KEY INSTRUMENTATION

- Agilent 6550 iFunnel Q-TOF LC/MS
- Agilent 6520 Accurate-Mass Q-TOF LC/MS
- Agilent 6495C Triple Quad LC/MS
- Agilent 240 Duo Atomic Absorption Spectroscopy (AAS) System
- Agilent 1200/1260 HPLC
- AKTA Fast Protein Liquid Chromatography System (Akta Prime Plus)
- ProteinSimple JESS Automated Western Blot System

WORKING WITH US

- Collaborative research
- Training
- Consultancies
- Fee for service

SPECIALIST SERVICES

We aim to provide complete mass spectrometry research services in proteomics and small molecule analysis that support multidisciplinary research activities for Monash and other local and international institutions. Our laboratory is equipped with a cutting-edge Agilent LCMS system and comprehensive software for data analysis.

Specialist Service #1: Protein Discovery

Our state-of-the-art Agilent 6550 iFunnel Q-TOF mass spectrometer coupled with Agilent 1290 UHPLC and AJS-ESI source can accurately identify proteins of interest from any biological sources.

Specialist Service #2: Peptide Sequencing And Protein Profiling

Our LCMS capabilities are enhanced with the availability of highly reliable and accurate search engines (proteomic software). We can accurately identify your peptide sequence or perform protein profiling with using advanced software such as PEAKS and MaxQuant.

Specialist Service #3: Small Molecule Discovery

Our LCMS system (Agilent 6520 AccurateMass QTOF with dual-ESI source) is optimised for the discovery of small molecules and metabolites from your biological samples with great sensitivity. Our machine is complemented by the Agilent MassHunter software suite, which provides intuitive, powerful, and accurate data analysis.

Other Capabilities:

Sample cleanup preparation - to ensure samples are LCMS-ready.

Proteomics and Metabolomics Platform

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