



CORE FACILITIES:

Genome Sequencing Centre

- Ion Torrent
- Ion Proton
- HiSeq 3000
- MiSeq
- ABI 3500

Microarray

- Affymetrix
- Illumina

Metabolic and Proteomics

- AB Sciex 6600 MS system
- Bruker MALDI tissue proteomics
- Q-TOF mass spectrometry
- HPLC

Cell Culture and Cell Biology

- Confocal microscope
- Flowcytometer

Infectious Diseases

Worm lab (*C. elegans*)

Microgravity

Animal Cabin

Biobank

About Us

UMBI was established in July 2003 and is a center of excellence focusing on research in molecular medicine. We conduct studies looking at the genetic and cellular basis of many diseases including cancers, diabetes, infectious diseases, degenerative diseases and ageing. UMBI was given the recognition as a Higher Institution Centre of Excellence (HICoE) by the Ministry of Education in 2009.

UMBI leads The Malaysian Cohort project, the largest prospective cohort project in the nation to identify risk factors for various diseases and discover biomarkers for early detection of many diseases including cancers. The Malaysian Cohort Biobank is the largest biobank in South East Asia. UMBI is a member of the Asia Cohort Consortium and the P3G Consortium.

Linkages

University of Newcastle (Australia), Curtin University (Australia), University of Oxford, National University of Singapore, A*STAR Singapore, Shiga University of Medical Sciences (Japan), Niigata University, Japan, National Institute of Infectious Diseases (Japan), Harry Perkins Institute of Medical Research (Australia), Malaysia Genome Institute, National Space Agency, and others.

Contact Us

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UMBI is a Higher Institution Centre of Excellence (HICoE) recognised by the Ministry of Higher Education Malaysia

**UKM MEDICAL
MOLECULAR
BIOLOGY
INSTITUTE
(UMBI)**

*'Providing solutions for
precision medicine through
research and discovery'*



Genome Sequencing Laboratory

Our genome sequencing laboratory is well equipped with the latest technology platforms. We have the HiSeq3000 system, two Ion Proton sequencing systems and one Ion Torrent system. We are currently conducting the 1000-Malaysian Genome project to sequence 1000 DNA samples from both normal and also those with diseases including cancers. We also have the ABI 3500 genetic analyser for Sanger sequencing. We are also doing exome sequencing and RNA sequencing on cancers, diabetes, hypercholesterolemia and rare diseases.

Molecular Diagnostic Services

Our UMBI-UKMMC Genomics Unit (a collaboration between UMBI and the UKM Medical Centre) provides molecular diagnostic services for thalassemia, pharmacogenetics (HLA-B*1502 and TPMT) and cancer related genes (BRCA1/BRCA2 for breast cancer, Lynch syndrome panel for colorectal cancer, K-Ras, B-Raf and EGFR). Our molecular diagnostic laboratory has the MS ISO 17025 accreditation. We have also patented a 19-gene panel (ColoPredict) to provide a risk-scoring system for patients with colorectal cancer.

Post-Graduate Programmes

UMBI offers MSc and PhD in molecular medicine by research. Foreign candidates can apply but must be fully sponsored by their government.



'Our mission is to be a national centre of excellence by conducting basic, applied and translational research to improve health via precision and genomics medicine'

National Key Projects

- The Malaysian Cohort
- 1000-MyGenome
- Microgravity Science
- Cancer Genome & Epigenome



The Malaysian Cohort Biobank

The Cohort Biobank is the largest in South-East Asia and it stores biospecimens from over 110,000 participants. The biobank has a quality management system and the bioanalytical laboratory has the MS ISO 15189 accreditation. The Malaysian Cohort database also contains large datasets for BIG DATA analytics.

Research Areas

- Cancers
- Non-communicable diseases (non-cancers)
- Degenerative Diseases
- Infectious Diseases
- Stem Cell Biology
- Gravitational Biology