

UMBI



INSTITUT PERUBATAN MOLEKUL UKM
UKM MEDICAL MOLECULAR BIOLOGY INSTITUTE



A GLANCE OF EXCELLENCE

Founded in July 2003 and Professor Datuk Dr A Rahman A Jamal appointed as UMBI 1st director.

Established as centre of excellence focusing on research in molecular medicine.

Diseases studied in UMBI include various types of cancer, diabetes, obesity and infectious diseases.

Recognized as Higher Institute Centre of Excellence (HICoE) in 2008.

Spearheaded The Malaysian Cohort Project, the largest prospective cohort project in Malaysia to identify risk factors and biomarkers for various diseases.

OUR PATH TO EXCELLENCE

2003

- Initial funding of RM25,000.00

2009

- Key National Projects (The Malaysian Cohort)
- International Linkages
- Recognition as HICoE

2013

- New Building
- 2 ISO Laboratories
- Molecular Diagnostic Services

2015

- Largest Biobank in SE Asia
- Research Grant >RM5 Million
- Asset >RM40 Million
- Colorectal Cancer Screening Program
- LRGS (Colorectal cancer)

2020

- Leading Cancer Research in Malaysia
- Regional Status
- International Recognition

OUR VISION

To be the leading institute in molecular medicine and achieve global recognition and excellence

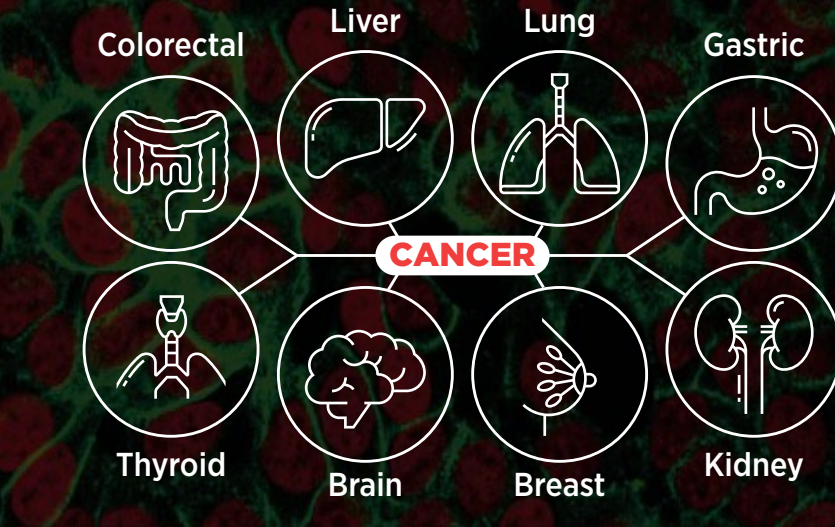
OUR MISSION

To be an excellent research institute by conducting basic, applied and translational research to improve health via personalised medicine

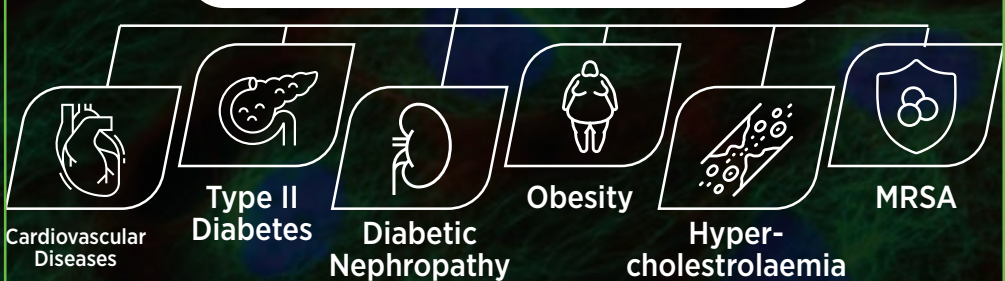
EDUCATIONAL GOAL

To produce postgraduates who are competent, confident, knowledgeable and have good skills in molecular medicine and ready for the industry

RESEARCH PROGRAM



NON-COMMUNICABLE DISEASES & INFECTIOUS DISEASE



RESEARCH FOCUS

Biomarker Discovery Studies

- Genomics (Whole genome and exome sequencing, SNPs array)
- Transcriptomics (RNA-Seq, cDNAs microarray)
- Proteomics (Mass spectrometry, MALDI imaging)

Biomarker Validation & Functional Studies

- Genetic engineering (CRISPR-Cas9 and RNAi gene targeting)
- Expression analysis (qRT-PCR, Western blotting)
- Cell-based assays and imaging (fluorescence microscope and flow cytometry)



ACADEMIC PROGRAM (BY RESEARCH)

Master of Science (Molecular Medicine)

*Bachelor degree with cGPA
3.0 and above in related
fields*

STATUS	DURATION
Full Time	2-6 Semester
Part Time	4-6 Semester

Doctor of Philosophy (Molecular Medicine)

*Master degree in related
fields*

STATUS	DURATION
Full Time	6-12 Semester
Part Time	8-14 Semester

*Entry requirement for foreign students
into the program:*

- 60 in TOEFL or
- Band 6 in IELTS or
- Band 4 in MUET

RESEARCH PROGRAM

COMPULSORY COURSES



- Research Methodology (Z1JJ6024)
- Medical Molecular Biology (Z1JJ6012)
- Advanced Medical Molecular Biology (JJJ6022)

*** MSc and PhD students are required to complete a minimum of 6 and 8 credits, respectively.*

PRESENTATIONS



Students are required to give research presentations as structured below:

- Proposal (First semester)
- Progress updates (within the semesters)
- Final findings (Last semester)

Students are highly encouraged to present at National / International conference and attend workshop and training related to research projects.

PUBLICATION REQUIREMENT



- MSc students ► publish a minimum of 1 article (World of Science)
- PhD students ► publish a minimum of 2 articles (World of Science)

*** Submission must be approved by the supervisor, post-graduate committee and UMBI director prior to viva-voce examination.*

GRADUATE ON TIME



- **MASTER:** Approved by UKM Senate to graduate within 30 months (5 semesters) from registration date.
- **PhD:** Approved by UKM Senate to graduate within 42 months (7 semesters) from registration date

LAB SERVICES

By embracing the current advanced research technologies, UMBI is capable to provide the best and high-quality research and diagnostic services to researchers not only in Malaysia but in this region.



NEXT GENERATION SEQUENCING

- Ion Torrent & Ion Proton
- Hi-Seq & Mi-Seq

TARGETED SEQUENCING

- Agena Mass-Array
- Sanger Sequencing



MICROARRAY

- Illumina
- Affymetrix

PROTEOMICS

- ABSCIEX 5600
- + Triple TOF LC-MS
- Bruker UltraFleXtreme



CELL BIOLOGY

- Fluorescence Microscope
- Flow Cytometry

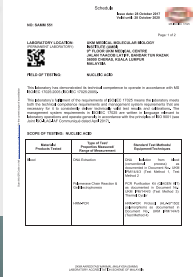
OTHER SERVICES

- qPCR and PCR
- Agilent Bioanalyzer
- Cell Culture and
- Infectious Disease Lab
- C. Elegans Lab
- Tissue Processing



For more info and rates, kindly email to umbi.cto@gmail.com

ACCREDITED LAB



UMBI sequencing lab was accredited with MS ISO/IEC 17025 for nucleic acid testing in March 2012.

*We are currently running the service for genetic testing on the HLA-B*1502 polymorphism.*



TRAINING

Lab Training

- Techniques in Molecular Biology
- Cell culture
- Bioinformatics

Industrial Training

- Quality management system
- ISO-related
- Undergraduate student attachment



GET IN TOUCH

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Biology Institute (UMBI)**

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