

PROF. DR. MUHAMMAD OWAIS ISMAIL

Professor, Pharmacology

Head of the Pharmacology Department, ZMC

MBBS, M.Phil, CHPE

Department of Pharmacology

EDUCATION

- MBBS
- M.Phil
- CHPE

PROFESSIONAL ASSOCIATIONS

- Member, Pakistan Society of Pharmacology

ADMINISTRATIVE & ACADEMIC ROLES

- Head of Examination Vigilance Committee, ZMC
- Member, ZMC Research Committee, Postgraduate Curriculum Committee (FHS-ZU), ZU Clinical Research Committee
- Member, ZMC Curriculum Committee, ZMC Board of Studies, ZU Convocation Committee, ZU Admission Committee, ZU Inquiry Committee

CURRENT RESEARCH FOCUS

- Cellular Neurology
- Diabetes
- Drug development

My current research centers on the development and application of human cell-based models to investigate the molecular and cellular mechanisms underlying neurodegeneration. Using various techniques, I aim to reproduce key pathological events observed in disorders like Alzheimer's disease, Parkinson's disease, and amyotrophic lateral sclerosis.

The focus of my work is on identifying and modulating anti-neurodegenerative pathways, including those involving proteostasis, neuroinflammation, and mitochondrial resilience. By coupling high-content imaging, multi-omics analyses, and chemical biology approaches, my studies explore how pharmacological interventions can counteract cellular stress, axonal degeneration, and glial dysregulation in human-derived neural systems.

This work contributes to a growing field that seeks to move beyond traditional animal models toward human-relevant, mechanistic insights into neuroprotection.

RESEARCH OUTPUT

- Antidepressant effects of *Opuntia dillenii* extract in rodents. (M.Phil Thesis, 2007)

PUBLICATIONS

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