Biography: Abdullah Md. Sheikh

Since 2000, my research has focused on the molecular mechanisms underlying vascular, neurodegenerative, and renal diseases. I began by studying atherosclerosis at the Department of Laboratory Medicine, where I investigated the effects of lysophosphatidylcholine (LPC), a key component of oxidized LDL, on endothelial cell and T-cell interactions.

From 2005 onward, my research expanded to neuroinflammation and neurodegeneration, particularly the roles of LPC in Alzheimer's disease-related amyloid-β aggregation and neurotoxicity. Using lipidomics approaches, I also characterized lipid alterations associated with Alzheimer's disease.

My work has further encompassed the molecular pathology of ischemic stroke and cerebral small vessel disease, as well as regenerative approaches using stem cell transplantation. These studies included the evaluation of neuronal and mesenchymal stem cells after various in vitro modifications and the establishment of a neuronal stem cell line from primary stem cells.

In addition, my early investigations into nitric oxide regulation in hypertensive kidneys inspired a continuing interest in renal disease. My current research aims to clarify the molecular mechanisms driving hypertensive nephropathy and to determine how these mechanisms contribute to structural and functional kidney damage.

Keywords: Atherosclerosis**,** Lysophosphatidylcholine (LPC)**,** Oxidized LDL (oxLDL)**,** Endothelial Cells**,** T cells**,** Neuroinflammation**,** Alzheimer's Disease, Stroke, Cerebral Small Vessel Disease, Amyloid-β Aggregation**,** Neurotoxicity**,** Lipidomics, Hypertension, Hypertensive Nephropathy, Molecular Pathology, Stem Cell Biology.