

Title: Mitochondria as therapeutic targets in diseases

Organizers: Jin Han (Inje University, Korea)
Shey-Shing Sheu (University of Rochester, USA)

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Venue: Seoul National University Hospital, Seoul, Korea

Outline:

Mitochondria are the gatekeepers of the life and death of most cells in the body and regulate signaling, metabolism, and energy production needed for cellular function. Recent scientific studies show that mitochondrial dysfunction is more commonplace than previously thought and that substantial mitochondrial involvement is present in many acute and chronic diseases. Mitochondrial dysfunction is now implicated in a range of human diseases, including aging, diabetes, atherosclerosis, heart failure, myocardial infarction, stroke and other ischemic-reperfusion injuries, neurodegenerative diseases including Alzheimer's and Parkinson's diseases; cancer, HIV; sepsis and trauma with multiorgan dysfunction or failure. In addition, deletions and mutations in the mitochondrial genome are associated with genetically determined mitochondria diseases such as MELAS. Given the critical role of mitochondrial dysfunction in a range of clinical disease processes, recent efforts in drug discovery has made the mitochondrion a therapeutic target. In this symposium, we will cover several aspects of current research on the role of mitochondria in health and disease with a special emphasis on the potential strategies for developing therapeutic agents that are targeted to mitochondria.

Program:

1. Sang Uk Kim (POSTEC, Korea)
Systematic Integration of Proteomics and Bioinformatics Reveals the Evolutionary Modularity of Human Mitochondrial Protein Functional Network.
2. Shey-Shing Sheu (University of Rochester, USA)
The Role of Mitochondria in Health and Disease
3. Gyorgy Szabadkai (University College London, UK)
Endoplasmic reticulum - mitochondria crosstalk and cellular stress signalling
4. Paolo Bernardi (University of Padova, Italy)
The mitochondrial permeability transition as a therapeutic target
5. Jin Han (Inje University, Korea)
BH4 Deficiency Impairs Cardiac Mitochondrial Function.

Sponsor:

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