Ming Li, Ph.D.

Associate Professor
University of Iowa, 1989.

Research Interests
Pharmacology of Ion channels, T-type Ca Channels, Cellular Electrophysiology, Pancreatic Islet β cells.

Academic Training:

- Ph.D. University of Iowa, Iowa City, IA 1989
- Postdoctoral Research - University of Washington, 1990-1993

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Research Interests:

Long-term interests of this laboratory are focused on the role of voltage-gated calcium channels in cellular excitability and hormone secretion. We have used pancreatic isleislet beng multiple types of voltage-gated calcium channels as a model system. Voltage-gated calcium channels are multi-subunit proteins with homologous principle subunits that are associated with multiple auxiliary subunits. The principal subunits are about 2500 amino acids in length and contain four homologous domains having six transmembrane segments in each. We are the first laboratory to isolate and clone the gene encoding the T-type calcium channel in pancreatic islet beta cells. We have demonstrated that this channel plays an important role in beta cell excitability and in the regulation of calcium homeostasis of the cell. We are also interested in developing new drugs that target calcium channels, which could be useful in the treatment of diabetes and other diseases. Techniques used in this laboratory include patch clamp recording, double electrode-voltage clamp, calcium fluorescence measuring, in combination with heterologous expression of cloned channels in mammalian cells and xenopus oocytes.

Publications:

Dr. Ming Li's research publications.

Funding:

American Heart Association, Southern Affiliate, P.I. 20%, "Role of T-type calcium channel in high glucose induced ventricular myocyte proliferation", $120,000, 2001-2003
NIH R01, Co-PI, 20%, Dr. Stevens, P.I., "Store operated Ca2+ entry: lung endothelial permeability", $1,200,052, 1999-2003
NIH (DK50151) R29, (P.I.)(50%) "Role of LVA Ca2+ channelin pancreatic B-cell death". $510,607, 1997-2002

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