FASEB
Federation of American Societies for Experimental Biology

Science Research Conferences

The Protein Lipidation Conference: Enzymology, Signaling, and Therapeutics

Organizer Bio: Mei Wang, MD, PhD

Associate Professor, Cancer and Stem Cell Biology, Duke-NUS Medical School, Singapore

Dr. Wang's research laboratory is interested in the investigation of molecular mechanisms of tumorigenesis and tumor progression and novel ways of targeting cancer-specific processes.

Her lab's active research areas are: (1) Protein prenylation processing, with an emphasis on isoprenylcysteine carboxylmethylation by ICMT, and its impact on tumor initiation cells, the process of metastasis and drug resistance. The focus of the studies is on identifying prenylation substrate proteins that plays regulatory role in these disease processes, and the impact of prenylation modification on the functions of these proteins. (2) Novel cancer therapy and biomarker development focusing on targeting the protein prenylation processing, especially the last enzyme isoprenylcysteine carboxylmethyltransferase (ICMT). (3) The impact of ICMT on cancer cell respiration and metabolism and ICMT impact on these functions when manipulated.

This focus is based on the understanding that cancer cells have distinct metabolic needs, hence vulnerabilities to changes in mitochondria respiration and anabolic/catabolic balances compared to normal cells. Specifically, the studies focus on cell signaling events in cancer cells under the nutritional and energetic stress, which leads to catabolic activities such as autophagy, cell cycle arrest and cell death.

Dr. Wang also holds a joint associate professor position in the Department of Biochemistry at the National University of Singapore.