

## First Laureate Fundamental Research

**Project Title:** Galectins in Health and Disease  
**Researcher:** Prof. Fu-Tong LIU  
**Field:** Medical Sciences  
**Scientific Affiliation:** Institute of Biomedical Sciences, Academia Sinica



### Abstract:

My research group contributed to the initial discovery of the family of galectins and has since been devoting efforts to unraveling the biological functions of these proteins and their roles in health and disease. By addressing the functions of endogenous galectin3-, we discovered its anti-apoptotic function, which is the first demonstration of intracellular functions of galectins. We subsequently demonstrated a number of other intracellular functions of this protein. We developed galectin-3-deficient mice and our studies of these mice have provided significant insights into the role of galectin3- in immune and inflammatory responses. Our group has also been tackling the biology of galectin7- and established its pro-apoptotic function, as well as its role of in the biological responses of keratinocytes. My group also discovered galectin12-, which is preferentially expressed by adipocytes. Through studying galectin-12-deficient mice we generated, we have shown the critical role of this protein in lipid metabolism.

### Biography:

Prof. Fu-Tong Liu is currently Distinguished Research Fellow and Director, Institute of Biomedical Sciences, Academia Sinica, Taiwan. He received his BS in Chemistry from National Taiwan University, PhD in Chemistry from University of Chicago, and MD from University of Miami. He has served as Head of the Allergy Research Section at the Scripps Research Institute, Head of the Division of Allergy at La Jolla Institute for Allergy and Immunology, and Distinguished Professor and Chair of Dermatology, University of California-Davis. He is a pioneer and leading investigator in the studies of a family of animal lectins, galectins, and has discovered the roles of these proteins in inflammation and immunity, as well as cancer progression and adiposity. He has published over 300 original scientific papers and review articles. He is the scientific member of Academia Sinica.

