

"A comprehensive book on the most recent developments in proteome analysis. The areas of applications are well chosen and are written by hands-on experts from academia and industry. This is a valuable book for beginners and a reference book for seasoned proteomic analysts."

Dr. Chang Kee Lim
King's College Hospital, UK

"This book represents various topics of the updated studies that encourage the use of proteome analysis in biomedical applications. The readers will understand not only the fundamentals of proteome research but also its extensive applications, especially in disease-related proteomics. This is a very interesting book for young scientists seeking inspiration in the field of proteomics research and is valuable for senior scientists, too."

Prof. Toshimasa Toyooka
University of Shizuoka, Japan

"This book represents an extensive collection of the most updated investigations in quantitative proteomics and its biomedical applications. It is written by highly recognized authors in the field to inspire young scientists and students. Citations of excellent references in each chapter are also helpful for this purpose."

Prof. Kazutake Shimada
Kanazawa University, Japan

Methods combined with separation techniques for detection, identification, and quantification of proteins in complex biological matrices are essential in understanding biochemical events in living cells, tissues, and organs, as well as in reading their co-existence in biological fluids. Furthermore, reproducible and quantitative methods to distinguish minute changes in amounts of proteins are vital in the search for difference in proteins or for specifically expressed proteins in differing circumstances.

This book focuses on the advantages and disadvantages of each such method in terms of accuracy, sensitivity, and especially reproducibility. It also concentrates on the effective applications of these methods, which result in many discoveries regarding the role of the proteins expressed in living cells and biological fluids.



Kazuhiro Imai received his BS and MS in pharmaceutical sciences from the University of Tokyo in 1965 and 1967, respectively. He completed his PhD from the same university in 1971. He was professor of bio-analytical chemistry in the Graduate School of Pharmaceutical Sciences, University of Tokyo, from 1993 to 2003 and in Musashino University from 2003 to 2012. Currently, he is professor emeritus at the University of Tokyo, doctor honoris causa at the University of Complutense, Madrid, and a visiting professor at Musashino University. Prof. Imai specializes in bio-analytical chemistry of proteome utilizing fluorescence and liquid chromatography and has published more than 300 papers.



Sam F. Y. Li received his BSc in chemical engineering and PhD from Imperial College London in 1981 and 1984, respectively. He also completed his DSc in analytical chemistry from the same college in 1998. He has held key positions in top companies and won awards, including Outstanding Science Entrepreneur Award from the National University of Singapore. He has several patents to his credit and is on the editorial board of the journal *Electrophoresis*, Germany. Dr. Li has authored one book, five book chapters, and more than 280 papers.