

SUBCELLULAR BIOCHEMISTRY • Volume 41

Subcellular Proteomics

From Cell Deconstruction to
System Reconstruction

Edited by

Eric Bertrand and Michel Faupel

This volume summarizes the new developments that made subcellular proteomics a rapidly expanding area. Recent success stories demonstrated that the combination of subcellular prefractionation methods with proteomic analysis is a very potent approach to simplify complex protein extracts from cells or tissues and to detect low abundance proteins. It also made clear that sophisticated strategies encompassing sample preparation, analytics and validation steps were required to fully exploit the potential of subcellular proteomics.

Three sections are devoted to the different levels of subcellular organization and their specific methodologies. This is completed by a section on systems biology that deals with the integration of the data derived from these different levels to produce a synthetic description of the cell as a system. A survey of the most advanced technical developments in proteomics is also included, which covers single cell analysis methods, molecular imaging and LC-MALDI. Written by a panel of leading experts in the field, this book represents an unprecedented attempt to reflect state-of-the-art methodology and also to convey both the mode of thinking and the hype of this discipline.

This volume should appeal not only to experts in the field and to researchers in disciplines such as cell biology or biochemistry but also to newcomers who wish to learn about the proteomic analysis of subcellular structures. Lastly, it can also serve as a reference guide for teachers, advanced undergraduates and graduate students desiring to learn more about this challenging field.

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Bertrand
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SUBCELLULAR BIOCHEMISTRY

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To Michel and his speedy recovery. His experience and enthusiasm have been sorely missed in the final stages of preparing this volume.

To my son, Alexandre, far from me now, but still close to my heart.

To my mother, who has been a source of inspiration in many more ways than she could have imagined.

Eric

TABLE OF CONTENTS

Acknowledgements	xiii
List of Contributors	xv
Introduction	xxi
SECTION 1 MEMBRANE PROTEOMICS	1
1. Keynotes on Membrane Proteomics	3
<i>Thierry Rabilloud</i>	
2. Two-Dimensional BAC/SDS-PAGE for Membrane Proteomics	13
<i>René P. Zahedi, Jan Moebius and Albert Sickmann</i>	
3. Microparticles: A New Tool for Plasma Membrane Sub-cellular Proteomic	21
<i>Laurent Miguet, Sarah Sanglier, Christine Schaeffer, Noelle Potier, Laurent Mauvieux and Alain Van Dorsselaer</i>	
4. Lipid Raft Proteomics: More than Just Detergent-Resistant Membranes	35
<i>Leonard J. Foster and Queenie W. T. Chan</i>	
SECTION 2 ORGANELLE SUBPROTEOMES	49
5. Organelle Proteome Variation Among Different Cell Types: Lessons from Nuclear Membrane Proteins	51
<i>Deirdre M. Kavanagh, William E. Powell, Poonam Malik, Vassiliki Lazou and Eric C. Schirmer</i>	
6. Synaptosome Proteomics	77
<i>Fengju Bai and Frank A. Witzmann</i>	

7. Proteomic Analysis of Secreted Exosomes	99
<i>Christine Olver and Michel Vidal</i>	
SECTION 3 CHARACTERIZATION OF SUPRAMOLECULAR PROTEIN COMPLEXES	133
8. From Protein–Protein Complexes to Interactomics	135
<i>Vincent Collura and Guillaume Boissy</i>	
9. Supramolecular Signalling Complexes in the Nervous System	185
<i>M.O. Collins and S.G.N. Grant</i>	
10. Protein Networks and Complexes in Photoreceptor Cilia	209
<i>Ronald Roepman and Uwe Wolfrum</i>	
SECTION 4 SUBCELLULAR SYSTEMS BIOLOGY	237
11. Systems Biology and the Reconstruction of the Cell: From Molecular Components to Integral Function	239
<i>Frank J. Bruggeman, Sergio Rossell, Karen van Eunen, Jildau Bouwman, Hans V. Westerhoff and Barbara Bakker</i>	
12. Automated, Systematic Determination of Protein Subcellular Location using Fluorescence Microscopy	263
<i>Elvira García Osuna and Robert F. Murphy</i>	
13. Systems Biology of the Endoplasmic Reticulum Stress Response	277
<i>Marie-Elaine Caruso and Eric Chevet</i>	
SECTION 5 EMERGING TECHNOLOGIES IN PROTEOMICS	299
14. Systems Nanobiology: From Quantitative Single Molecule Biophysics to Microfluidic-Based Single Cell Analysis	301
<i>Joerg Martini, Wibke Hellmich, Dominik Greif, Anke Becker, Thomas Merkle, Robert Ros, Alexandra Ros, Katja Toensing and Dario Anselmetti</i>	
15. Biophotonics Applied to Proteomics	323
<i>Michel Faupel, Débora Bonenfant, Patrick Schindler, Eric Bertrand, Dieter Mueller, Markus Stoeckli, Francis Bitsch, Tatiana Rohner, Dieter Staab and Jan Van Oostrum</i>	

16. Differential Epitope Identification of Antibodies Against Intracellular Domains of Alzheimer's Amyloid Precursor Protein Using High Resolution Affinity-mass Spectrometry	339
<i>Xiaodan Tian, Madalina Maftai, Markus Kohlmann, Bernadette Allinquant and Michael Przybylski</i>	
17. LC-MALDI MS and MS/MS – An Efficient Tool in Proteome Analysis	355
<i>Dieter R. Mueller, Hans Voshol, Annick Waldt, Brigitte Wiedmann and Jan van Oostrum</i>	
Index	381
Color Plates	385

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