
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
1 Introduction to Urinalysis: Historical Perspectives and Clinical Application	1
<i>Germán Echeverry, Glen L. Hortin, and Alex J. Rai</i>	
2 A Primer on Clinical Applications and Assays Using Urine: Focus on Analysis of Plasma Cell Dyscrasias Using Automated Electrophoresis and Immunofixation.	13
<i>Brianne Olivieri and Alex J. Rai</i>	
3 Application of Free Flow Electrophoresis to the Analysis of the Urine Proteome	27
<i>Aude L. Foucher, David R. Craft, and Craig A. Gelfand</i>	
4 Standardized Preprocessing of Urine for Proteome Analysis	47
<i>Georg Martin Fiedler, Uta Ceglarek, Alexander Leichtle, and Joachim Thiery</i>	
5 Different Sample Preparation and Detection Methods for Normal and Lung Cancer Urinary Proteome Analysis	65
<i>Supachok Sinchaikul, Payungsak Tantipaiboonwong, Supawadee Sriyam, Ching Tzao, Suree Phutrakul, and Shui-Tein Chen</i>	
6 Isolation and Purification of Exosomes in Urine	89
<i>Patricia A. Gonzales, Hua Zhou, Trairak Pisitkun, Nam Sun Wang, Robert A. Star, Mark A. Knepper, and Peter S.T. Yuen</i>	
7 Bioinformatics of the Urinary Proteome	101
<i>Laurence D. Parnell and Christine M.E. Schueller</i>	
8 PROTIS: Use of Combined Biomarkers for Providing Diagnostic Information on Disease States	123
<i>Walter Hofmann, Cornelia Sedlmeir-Hofmann, Miroslav Ivandić, Dagmar Ruth, and Peter Lippa</i>	
9 Statistical Contributions to Proteomic Research	143
<i>Jeffrey S. Morris, Keith A. Baggerly, Howard B. Gutstein, and Kevin R. Coombes</i>	
10 A Review of Experimental Design Best Practices for Proteomics Based Biomarker Discovery: Focus on SELDI-TOF	167
<i>Rebecca E. Caffrey</i>	
11 Urine Proteomic Profiling for Biomarkers of Acute Renal Transplant Rejection.	185
<i>Shu-Ling Liang and William Clarke</i>	

12	Surface Plasmon Resonance Biosensorics in Urine Proteomics.	193
	<i>Peter B. Lippa, Jochen Metzger, and Heike Schneider</i>	
13	Urinary Proteins for the Diagnosis of Obstructive Sleep Apnea Syndrome.	223
	<i>Ayelet Snow, David Gozal, Roland Valdes Jr., and Saeed A. Jortani</i>	
14	Immune Response Biomarker Profiling Application on ProtoArray® Protein Microarrays	243
	<i>Barry Schweitzer, Lihao Meng, Dawn Mattoon, and Alex J. Rai</i>	
15	Design and Validation of an Immunoaffinity LC–MS/MS Assay for the Quantification of a Collagen Type II Neopeptide Peptide in Human Urine: Application as a Biomarker of Osteoarthritis	253
	<i>Olga Nemirovskiy, Wenlin Wendy Li, and Gabriella Szekely-Klepser</i>	
16	Cell-Specific Biomarkers in Renal Medicine and Research	271
	<i>Martin Shaw</i>	
17	Proteomic Assays for the Detection of Urothelial Cancer	303
	<i>Kris E. Gaston and H. Barton Grossman</i>	
18	Urine Proteomic Analysis: Use of Two-Dimensional Gel Electrophoresis, Isotope Coded Affinity Tags, and Capillary Electrophoresis.	325
	<i>Kimia Sobhani</i>	
19	Proteomic Analysis of Pancreatic Secretory Trypsin Inhibitor/Tumor-Associated Trypsin Inhibitor from Urine of Patients with Pancreatitis or Prostate Cancer.	347
	<i>Leena Valmu, Suvi Ravela, and Ulf-Håkan Stenman</i>	
	<i>Index</i>	359



<http://www.springer.com/978-1-60761-710-5>

The Urinary Proteome
Methods and Protocols

Rai, A.J. (Ed.)

2010, XI, 361 p., Hardcover

ISBN: 978-1-60761-710-5

A product of Humana Press