

Contents

Part I Urine as Biomarker Source

| | |
|---|-----------|
| 1 Urine Is a Better Biomarker Source Than Blood Especially for Kidney Diseases | 3 |
| Youhe Gao | |
| 2 Urine Reflection of Changes in Blood | 13 |
| Menglin Li | |

Part II Urine Collection, Storage and Analysis

| | |
|---|-----------|
| 3 Urinem Facilitates Kidney Disease Biomarker Research | 23 |
| Liu Liu, Lulu Jia and Xuejiao Liu | |
| 4 Human Urine Proteome: A Powerful Source for Clinical Research | 31 |
| Lili Zou and Wei Sun | |
| 5 Exosomes in Urine Biomarker Discovery | 43 |
| Alyssa R. Huebner, Poorichaya Somparn, Thitima Benjachat, Asada Leelahavanichkul, Yingyos Avihingsanon, Robert A. Fenton and Trairak Pisitkun | |
| 6 Urinary Proteins with Post-translational Modifications | 59 |
| Liu Liu and Xuejiao Liu | |
| 7 Applications of Peptide Retention Time in Proteomic Data Analysis | 67 |
| Chen Shao | |

| | | |
|----------|--|-----------|
| 8 | Urine Sample Preparation in 96-well Filter Plates to Characterize Inflammatory and Infectious Diseases of the Urinary Tract | 77 |
| | Yanbao Yu and Rembert Pieper | |

Part III Factors That Changes Urinary Proteome

| | | |
|-----------|--|------------|
| 9 | Variations of Human Urinary Proteome | 91 |
| | Yong Chen | |
| 10 | Evolution of the Urinary Proteome During Human Renal Development and Maturation | 95 |
| | Zi Wang and Mingxi Li | |
| 11 | Hormone-Dependent Changes in Female Urinary Proteome | 103 |
| | Annalisa Castagna, Sarath Kiran Channavajhala, Francesca Pizzolo and Oliviero Olivieri | |
| 12 | Effects of Exercise on the Urinary Proteome | 121 |
| | Maxie Kohler, Wilhelm Schänzer and Mario Thevis | |
| 13 | Effects of Diuretics on Urinary Proteins | 133 |
| | Xundou Li | |

Part IV Discovery of Kidney Disease Biomarkers

| | | |
|-----------|---|------------|
| 14 | Applications of Urinary Proteomics in Renal Disease Research Using Animal Models | 145 |
| | Yang Lv, Guangyan Cai and Xiangmei Chen | |
| 15 | The Application of Urinary Proteomics for the Detection of Biomarkers of Kidney Diseases | 151 |
| | Song Jiang, Yu Wang and Zhihong Liu | |
| 16 | Dynamic Changes of Urinary Proteins in Focal Segmental Glomerulosclerosis Model | 167 |
| | Mindi Zhao | |
| 17 | Using Isolated Rat Kidney to Discover Kidney Origin Biomarkers in Urine | 175 |
| | Lulu Jia | |

| | | |
|-----------|---|------------|
| 18 | Comparing Plasma and Urinary Proteomes to Understand Kidney Function. | 187 |
| | Lulu Jia | |
| 19 | Urinary Protein Biomarker Database: A Useful Tool for Biomarker Discovery. | 195 |
| | Chen Shao | |

Urine Proteomics in Kidney Disease Biomarker Discovery

Gao, Y. (Ed.)

2015, XIII, 203 p. 25 illus., 10 illus. in color., Hardcover

ISBN: 978-94-017-9522-7