Contents

Preface ................................................................. v
Contributors .......................................................... ix

1 A Brief Introduction into the Renin-Angiotensin-Aldosterone System: New and Old Techniques .................................. 1
   Sean E. Thatcher

2 A Color Segmentation-Based Method to Quantify Atherosclerotic Lesion Compositions with Immunostaining ............... 21
   Congqing Wu, Alan Daugherty, and Hong Lu

3 Assessment of Protein Carbonylation and Protein Tyrosine Phosphatase (PTP) Oxidation in Vascular Smooth Muscle Cells (VSMCs) Using Immunoblotting Approaches .................. 31
   Sofia Tsiropoulou and Rhian M. Touyz

4 Methods for Studying the Role of RAAS in the Modulation of Vascular Repair-Relevant Functions of Stem/Progenitor Cells .................. 47
   Yagna P.R. Jarajapu

5 Use of a Fluorescent Substrate to Measure ACE2 Activity in the Mouse Abdominal Aorta ........................................ 61
   Yu Wang, Lisa A. Cassis, and Sean E. Thatcher

6 Measuring Blood Pressure Using a Noninvasive Tail Cuff Method in Mice .................................................. 69
   Yu Wang, Sean E. Thatcher, and Lisa A. Cassis

7 Blood Pressure Monitoring Using Radio Telemetry Method in Mice .................................................. 75
   Yu Wang, Sean E. Thatcher, and Lisa A. Cassis

8 Characterization and Functional Phenotyping of Renal Immune Cells via Flow Cytometry .......................... 87
   Nathan P. Rudemiller and Steven D. Crowley

   Bryan A. Wilson and Mark C. Chappell

10 Comprehensive Assessments of Energy Balance in Mice .................. 123
    Justin L. Grobe

11 In Vitro Assays to Determine Smooth Muscle Cell Hypertrophy, Protein Content, and Fibrosis .................. 147
    Katherine J. Elliott and Satoru Eguchi

12 A New Mouse Model for Introduction of Aortic Aneurysm by Implantation of Deoxycorticosterone Acetate Pellets or Aldosterone Infusion in the Presence of High Salt .................. 155
    Shu Liu, Ming C. Gong, and Zhenheng Guo
13 Fluorescence-Based Binding Assay for Screening Ligands of Angiotensin Receptors .................................................. 165
  Maiia E. Bragina, Nikolaos Stergiopulos, and Rodrigo A. Fraga-Silva

14 A Primer to Angiotensin Peptide Isolation, Stability, and Analysis by Nano-Liquid Chromatography with Mass Detection ......................... 175
  Mariola Olkowicz, Stefan Chlopicki, and Ryszard T. Smolenski

15 Analysis of Angiotensin Metabolism in the Kidney Using Mass Spectrometry . . . 189
  Nadja Grobe and Khalid M. Elased

Index .......................................................................................... 199
The Renin-Angiotensin-Aldosterone System
Methods and Protocols
Thatcher, S.E. (Ed.)
2017, X, 201 p. 58 illus., 38 illus. in color., Hardcover
A product of Humana Press