Contents

1 Methods to Study Lung Injury and Repair: Introduction ........ 1
   Lynn M. Schnapp and Carol Feghali-Bostwick

2 Mouse Models of Acute Lung Injury ................................. 5
   William A. Altemeier, Chi F. Hung and Gustavo Matute-Bello

3 Transgenic Animal Models in Lung Research .................... 25
   Chi F. Hung and William A. Altemeier

4 Fundamental Methods for Analysis of Acute Lung Injury in Mice
   ................................................................. 39
   Carole L. Wilson, Lindsey M. Felton and Yu-Hua Chow

5 Invasive Measurement of Pulmonary Function in Mice ........... 59
   Xiaozhu Huang and Annette Robichaud

6 Analysis of Epithelial Injury and Repair ............................. 69
   Kathrin Mutze and Melanie Königshoff

7 Flow Cytometric Evaluation of Acute Lung Injury and Repair . . 85
   Jason R. Mock, Benjamin D. Singer and Franco R. D’Alessio

8 Lung Imaging in Animal Models .................................. 107
   Emma Lefrançais, Beñat Mallavia and Mark R. Looney

9 Genetic and Genomic Approaches to Acute Lung Injury .......... 133
   Ivana V. Yang

10 MicroRNA Analysis in Acute Lung Injury ......................... 161
   Andrew J. Goodwin

Index ................................................................. 179