

Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
Generation of Patient-Specific induced Pluripotent Stem Cell from Peripheral Blood Mononuclear Cells by Sendai Reprogramming Vectors	1
<i>Oscar Quintana-Bustamante and Jose C. Segovia</i>	
A Doxycycline-Inducible System for Genetic Correction of iPSC Disease Models	13
<i>Xiuli Sim, Fabian L. Cardenas-Diaz, Deborah L. French and Paul Gadue</i>	
Generation and Characterization of Patient-Specific Induced Pluripotent Stem Cell for Disease Modeling	25
<i>Renuka Sivapatham and Xianmin Zeng</i>	
Modeling Genomic Imprinting Disorders Using Induced Pluripotent Stem Cells	45
<i>Stormy J. Chamberlain, Noelle D. Germain, Pin-Fang Chen, Jack S. Hsiao, and Heather Glatt-Deeley</i>	
Generation and Characterization of Induced Pluripotent Stem Cells from Patients with mtDNA Mutations	65
<i>Riikka H. Härmäläinen and Anu Suomalainen</i>	
Skin Biopsy and Patient-Specific Stem Cell Lines	77
<i>Yao Li, Huy V. Nguyen, and Stephen H. Tsang</i>	
Directed Myogenic Differentiation of Human Induced Pluripotent Stem Cells	89
<i>Emi Shoji, Knut Woltjen, and Hidetoshi Sakurai</i>	
Using Human Induced Pluripotent Stem Cells to Model Skeletal Diseases	101
<i>Emilie Barruet and Edward C. Hsiao</i>	
Modeling Cardiovascular Diseases with Patient-Specific Human Pluripotent Stem Cell-Derived Cardiomyocytes	119
<i>Paul W. Burridge, Sebastian Diecke, Elena Matsa, Arun Sharma, Haodi Wu, and Joseph C. Wu</i>	
Calcium Imaging in Pluripotent Stem Cell-Derived Cardiac Myocytes	131
<i>Anna Walter, Tomo Sarić, Jürgen Hescheler and Symeon Papadopoulos</i>	
Patient-Specific Induced Pluripotent Stem Cell Models: Generation and Characterization of Cardiac Cells	147
<i>Fabian Zanella and Farah Sheikh</i>	

Differentiation of Human Pluripotent Stem Cells to Cardiomyocytes Under Defined Conditions	163
<i>Cathelijne W. van den Berg, David A. Elliott, Stefan R. Braam, Christine L. Mummery, and Richard P. Davis</i>	
Generation of Cardiomyocytes from Pluripotent Stem Cells	181
<i>Hiroko Nakahama and Elisa Di Pasquale</i>	
Generation and Characterization of Patient-Specific iPSC Model for Cardiovascular Disease	191
<i>Yee Ki Lee, X. Ran, K.W.H. Lai, V.Y.M. Lau, D.C.W. Siu, and H.F. Tse</i>	
Transgene-Free Disease-Specific iPSC Generation from Fibroblasts and Peripheral Blood Mononuclear Cells	215
<i>Kerem Fidan, Ayyub Ebrahimi, Özlem H. Çağlayan, Burcu Özçimen, and Tamer T. Önder</i>	
Generation and Neuronal Differentiation of Patient-Specific Induced Pluripotent Stem Cells Derived from Niemann-Pick Type C1 Fibroblasts	233
<i>Michaela Trilck, Rayk Hübner, and Moritz J. Frech</i>	
Multisystemic Disease Modeling of Liver-Derived Protein Folding Disorders Using Induced Pluripotent Stem Cells (iPSCs)	261
<i>Amy Leung and George J. Murphy</i>	
In Vitro Modeling of Alcohol-Induced Liver Injury Using Human-Induced Pluripotent Stem Cells	271
<i>Lipeng Tian, Neha Prasad, and Yoon-Young Jang</i>	
Generation of Human Induced Pluripotent Stem Cells Using RNA-Based Sendai Virus System and Pluripotency Validation of the Resulting Cell Population	285
<i>Valeria Chichagova, Irene Sanchez-Vera, Lyle Armstrong, David Steel, and Majlinda Lako</i>	
Modeling Axonal Phenotypes with Human Pluripotent Stem Cells	309
<i>Kyle R. Denton, Chong-Chong Xu, and Xue-Jun Li</i>	
Mitochondrial Disease-Specific Induced Pluripotent Stem Cell Models: Generation and Characterization	323
<i>Xuan Zhang, Shishi Li, Wei Yang, Huaye Pan, Dajiang Qin, Xufen Zhu, and Qingfeng Yan</i>	
Patient-Specific Induced Pluripotent Stem Cell Models: Characterization of iPS Cell-Derived Cardiomyocytes	343
<i>Toru Egashira, Shinsuke Yuasa, Shugo Tohyama, Yusuke Kuroda, Tomoyuki Suzuki, Tomohisa Seki, and Keiichi Fukuda</i>	
Generation of Integration-Free Patient Specific iPS Cells Using Episomal Plasmids Under Feeder Free Conditions	355
<i>Sara Caxaria, Susanne Arthold, Amit C. Nathwani and Pollyanna Agnes Goh</i>	
<i>Index</i>	367