Contents

Functional Dualism of Perinatal Stem Cells ................................................. 1
Toshio Miki and Fabio Triolo

Immunomodulatory Properties of Perinatal Tissue-Derived
Stem Cells ........................................................................................................ 21
Seyed Mahmoud Hashemi and Sara Soudi

Umbilical Cord Tissue and Wharton’s Jelly Mesenchymal
Stem Cells Properties and Therapeutic Potentials ....................... 41
Erdal Karaöz and Çiğdem İnci

Perinatal Tissue-Derived Endothelial Progenitor Cells ....................... 65
Abbas Shafiee and Kiarash Khosrotehrani

Human Amniotic Membrane as a Biological Source
for Regenerative Medicine ................................................................. 81
Mazaher Gholipourmalekabadi, Narendra Pal Singh Chauhan, Behrouz
Farhadihosseinabad, and Ali Samadikuchaksaraei

Current Understanding Realities of Umbilical Cord Stem Cells
Biology and Future Perspectives in Clinical Application ......... 107
Somayeh Ebrahimi-Barough, Zohreh Bagher, Jafar Ai, Reza Rahbarghazi,
and Elham Hoveizi

Characteristics of Mesenchymal Stem Cells Derived from Amniotic
Membrane: A Potential Candidate for Stem Cell-Based Therapy .......... 137
Somaieh Kazemnejad, Manijeh Khanmohammadi, Amir-Hassan Zarnani,
and Mohammad Reza Bolouri

Amniotic Fluid: A Source of Stem Cells for Therapeutic Use
and Modeling of Human Genetic Diseases ............................................. 171
Somaieh Kazemnejad, Manijeh Khanmohammadi, Abolfazl Shirazi,
Shaghayegh Arasteh, Sayeh Khanjani, and Mehdi Aleahmad
GMP-Compliant Perinatal Tissue-Derived Stem Cells
Babak Arjmand, Parisa Goodarzi, Khadijeh Falahzadeh, Hamid Reza Aghayan, Fakher Rahim, Fereshteh Mohamadi-Jahani, and Bagher Larijani

GMP Facilities for Clinical Cell Therapy Product Manufacturing: A Brief Review of Requirements and Design Considerations
Hamid Reza Aghayan, Babak Arjmand, and Scott R. Burger

Ethical Issues in Perinatal Tissue Derivation and Regenerative Medicine
Leila Afshar

Index