Contents

MADRY, Henning, KÖHN, Dieter, and CUCCHIARINI, Magali: Genetic Modification of Human Mesenchymal Stem Cells for Regenerative Approaches in Orthopedic Surgery ................................................................. 7

XU, Maojia, and BARRY, Frank: Cellular Strategies in Osteoarthritis: Therapy and Pathogenesis ................................................................. 15

SCHREPFER, Sonja, and DEUSE, Tobias: The Allogenicity of Stem Cells and their Immunobiological Hurdle for Clinical Application ...................... 25

BÖHM, Michael, KASAKOW, Andrej, WERNER, Christian, and LAUFS, Ulrich: Vascular Regeneration and Repair in Cardiovascular High-Risk Patients ............... 33

HASENFUSS, Gerd: Myocardial Regeneration: News from Bench and Bedside .......... 39

FLEISCHMANN, Bernd K.: Regeneration of the Heart ........................................ 45

GOEDEL, Alexander: Modeling Human Genetics in Induced Pluripotent Stem Cells (iPCs) for Cardiac Disease ............................................................... 51

KÄSMANN-KELLNER, Barbara, and SEITZ, Berthold: Stem Cells in Ophthalmology with an Emphasis on Aniridia / PAX6 Syndrome with Limbal Stem Cell Insufficiency ................................................................. 55

GRAF, Norbert: Cord Blood Stem Cells – A Dream for Future Medicine ............... 71

MELLER, Daniel: Corneal Epithelial Stem Cells: Clinical Relevance and Novel Therapeutic Concepts for Reconstruction of the Ocular Surface (Abstract) ............ 77