
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
PART I INTRODUCTION	
1 Hepatocyte Transplantation in Special Populations: Clinical Use in Children <i>Zahida Khan and Stephen C. Strom</i>	3
2 Alternative Cell Sources to Adult Hepatocytes for Hepatic Cell Therapy <i>Eugenia Pareja, María José Gómez-Lechón, and Laia Tolosa</i>	17
PART II EXPERIMENTAL HEPATOCYTE TRANSPLANTATION	
3 Late Gestation Fetal Hepatocytes for Liver Repopulation in the Rat <i>Jennifer A. Sanders</i>	45
4 A Modified Protocol for the Isolation of Primary Human Hepatocytes with Improved Viability and Function from Normal and Diseased Human Liver <i>David C. Bartlett and Philip N. Newsome</i>	61
5 Thy-1 (CD90)-Positive Hepatic Progenitor Cells, Hepatocytes, and Non-parenchymal Liver Cells Isolated from Human Livers <i>Thomas S. Weiss and Rania Dayoub</i>	75
6 Propagation of Human Hepatocytes in uPA/SCID Mice: Producing Chimeric Mice with Humanized Liver <i>Hiroki Ohshita and Chise Tateno</i>	91
7 Fetal Liver Stem/Progenitor Cell Transplantation: A Model to Study Tissue Mass Replacement and Cell-Based Therapies <i>Mladen I. Yovchev and Michael Oertel</i>	101
8 Successful Engraftment of Human Hepatocytes in uPA-SCID and FRG [®] KO Mice <i>Lander Foquet, Elizabeth M. Wilson, Lieven Verboye, Markus Grompe, Geert Leroux-Roels, John Bial, and Philip Meuleman</i>	117
9 Gunn Rats as a Surrogate Model for Evaluation of Hepatocyte Transplantation-Based Therapies of Crigler–Najjar Syndrome Type 1 <i>Zsuzsanna Polgar, Yanfeng Li, Xia Li Wang, Chandan Guha, Namita Roy-Chowdhury, and Jayanta Roy-Chowdhury</i>	131
10 Experimental Hepatocyte Transplantation in Pigs <i>Eiji Kobayashi, Shin Enosawa, and Hiroshi Nagashima</i>	149
11 Demonstrating Potential of Cell Therapy for Wilson’s Disease with the Long-Evans Cinnamon Rat Model <i>Fadi Luc Jaber, Yogeshwar Sharma, and Sanjeev Gupta</i>	161

12	Use of Thymidine Kinase Recombinant Adenovirus and Ganciclovir Mediated Mouse Liver Preconditioning for Hepatocyte Xenotransplantation	179
	<i>Daniel Moreno, Leire Neri, Eva Vicente, Africa Vales, and Rafael Aldabe</i>	
13	Minimally Invasive Liver Preconditioning for Hepatocyte Transplantation in Rats	193
	<i>Martin Gaillard and Ibrahim Dagher</i>	
14	Preclinical Swine Models for Monitoring of Hepatocyte Transplantation by MRI	201
	<i>Nathanael Raschzok, Ulf Teichgräber, Johann Pratschke, and Igor M. Sauer</i>	
15	Deep Digging: Far Red Imaging for the Monitoring of Transplanted Hepatocytes in Rats	215
	<i>Peggy Stock and Kristin Weber</i>	

PART III CLINICAL HEPATOCYTE TRANSPLANTATION

16	Isolation of GMP Grade Human Hepatocytes from Remnant Liver Tissue of Living Donor Liver Transplantation	231
	<i>Shin Enosawa</i>	
17	Isolation of Hepatocytes and Stellate Cells from a Single Piece of Human Liver	247
	<i>Serene M.L. Lee, Tobias S. Schiergens, Maresa Demmel, Reinhard M.K. Thasler, and Wolfgang E. Thasler</i>	
18	Microencapsulation of Hepatocytes and Mesenchymal Stem Cells for Therapeutic Applications	259
	<i>Raphael P.H. Meier, Elisa Montanari, Philippe Morel, Joël Pimenta, Henk-Jan Schuurman, Christine Wandrey, Sandrine Gerber-Lemaire, Redouan Mahou, and Leo H. Bühler</i>	
19	Alginate Encapsulation of Human Hepatocytes and Assessment of Microbeads.	273
	<i>Ragai R. Mitry, Suttiruk Jitraruch, Valeria Iansante, and Anil Dhawan</i>	
20	Report on Liver Cell Transplantation Using Human Fetal Liver Cells	283
	<i>Giada Pietrosi and Cinzia Chinnici</i>	
21	Hepatocyte Transplantation in Children	295
	<i>Louise Coppin, Etienne Sokal, and Xavier Stephenne</i>	

PART IV COMPUTING IN HEPATOCYTE TRANSPLANTATION

22	Creation of Three-Dimensional Liver Tissue Models from Experimental Images for Systems Medicine	319
	<i>Stefan Hoehme, Adrian Friebe, Seddik Hammad, Dirk Drasdo, and Jan G. Hengstler</i>	
	<i>Index</i>	363

Hepatocyte Transplantation

Methods and Protocols

Stock, P.; Christ, B. (Eds.)

2017, XIII, 365 p. 68 illus., 52 illus. in color., Hardcover

ISBN: 978-1-4939-6504-5

A product of Humana Press