

SpringerBriefs in Stem Cells

More information about this series at <http://www.springer.com/series/10206>

Tao Cheng
Editor

Hematopoietic Differentiation of Human Pluripotent Stem Cells

 Springer

Editor
Tao Cheng
Institute of Hematology
Tianjin
China

ISSN 2192-8118
SpringerBriefs in Stem Cells
ISBN 978-94-017-7311-9
DOI 10.1007/978-94-017-7312-6

ISSN 2192-8126 (electronic)
ISBN 978-94-017-7312-6 (eBook)

Library of Congress Control Number: 2015945324

Springer Dordrecht Heidelberg New York London
© The Author(s) 2015

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

Printed on acid-free paper

Springer Science+Business Media B.V. Dordrecht is part of Springer Science+Business Media
(www.springer.com)

Contents

1 Generation of Hemangioblasts from Human Pluripotent Stem Cells	1
Shi-Jiang Lu, Qiang Feng and Robert Lanza	
2 Derivation of Mature Erythrocytes from Human Pluripotent Stem Cells by Coculture with Murine Fetal Stromal Cells	15
Bin Mao, Xulin Lu, Shu Huang, Jinfeng Yu, Mowen Lai, Kohichiro Tsuji, Tatsutoshi Nakahata and Feng Ma	
3 Derivation of Megakaryocytes and Platelets from Human Pluripotent Stem Cells	41
Yanfeng Li, Ying Wang, Linzhao Cheng and Zack Z. Wang	
4 Derivation of Functionally Mature Eosinophils from Human Pluripotent Stem Cells	51
Ya Zhou, Xu Pan, Wenyu Yang, Yanzheng Gu, Bin Mao, Mowen Lai, Wencui Sun, Shu Huang, Tatsutoshi Nakahata and Feng Ma	
5 Human Pluripotent Stem Cells as a Renewable Source of Natural Killer Cells	69
David L. Hermanson, Zhenya Ni and Dan S. Kaufman	
6 Generation of T-Lineage Cells from iPS Cells and Its Application.	81
Haruka Wada, Muhammad Baghdadi and Ken-ichiro Seino	
7 Reprogramming of Human Cord Blood CD34⁺ Cells into Induced MSCs.	91
Amanda Neises, Ruijun Jeanna Su and Xiao-Bing Zhang	

8 CRISPR/Cas9-Mediated Genome Editing in Human Pluripotent Stem Cells 103
Jian-Ping Zhang, Amanda Neises, Tao Cheng
and Xiao-Bing Zhang

9 Humanized Mouse Models with Functional Human Lymphoid and Hematopoietic Systems Through Human Hematopoietic Stem Cell and Human Fetal Thymic Tissue Transplantation. 117
Zheng Hu, Feng Jin, Bing Chen, Jinglong Guo, Jin He,
Zhigang Liu, Bin Liu and Yong-Guang Yang