
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>xi</i>
1 Use of Mouse Models in Atherosclerosis Research. <i>Godfrey S. Getz and Catherine A. Reardon</i>	1
2 Cytokines and Immune Responses in Murine Atherosclerosis <i>Pascal J.H. Kusters and Esther Lutgens</i>	17
3 Intravital Microscopy for Atherosclerosis Research. <i>Remco T.A. Megens and Oliver Soehnlein</i>	41
4 Noninvasive Molecular Imaging of Mouse Atherosclerosis. <i>Martina A. McAteer and Robin P. Choudhury</i>	61
5 Oil Red O and Hematoxylin and Eosin Staining for Quantification of Atherosclerosis Burden in Mouse Aorta and Aortic Root. <i>M. Jesús Andrés-Manzano, Vicente Andrés, and Beatriz Dorado</i>	85
6 Isolation, Culture, and Polarization of Murine Bone Marrow-Derived and Peritoneal Macrophages <i>Inés Pineda-Torra, Matthew Gage, Alba de Juan, and Oscar M. Pello</i>	101
7 Isolation of Mouse Primary Aortic Endothelial Cells by Selection with Specific Antibodies <i>Pedro Molina-Sánchez and Vicente Andrés</i>	111
8 Isolation and Culture of Aortic Smooth Muscle Cells and In Vitro Calcification Assay. <i>Ricardo Villa-Bellosta and Magda R. Hamczyk</i>	119
9 Immunostaining of Macrophages, Endothelial Cells, and Smooth Muscle Cells in the Atherosclerotic Mouse Aorta. <i>Prashanthi Menon and Edward A. Fisher</i>	131
10 Immunostaining of Lymphocytes in Mouse Atherosclerotic Plaque <i>Anton Gisterå and Daniel F.J. Ketelhuth</i>	149
11 Flow Cytometric Analysis of Immune Cells Within Murine Aorta <i>Breanne N. Gjurich, Parésa L. Taghavi-Moghadam, and Elena V. Galkina</i>	161
12 In Vitro Differentiation of Naïve CD4 ⁺ T Cells: A Tool for Understanding the Development of Atherosclerosis <i>Salvador Iborra and Jose M. González-Granado</i>	177
13 Quantification of Apoptosis in Mouse Atherosclerotic Lesions. <i>Nichola L. Figg and Martin R. Bennett</i>	191

14	Quantification of Cellular Proliferation in Mouse Atherosclerotic Lesions	201
	<i>José J. Fuster</i>	
15	Quantification of In Vitro Macrophage Cholesterol Efflux and In Vivo Macrophage-Specific Reverse Cholesterol Transport	211
	<i>Joan Carles Escolà-Gil, Miriam Lee-Rueckert, David Santos, Lidia Cedó, Francisco Blanco-Vaca, and Josep Julve</i>	
16	In Vitro Macrophage Phagocytosis Assay.	235
	<i>Magda R. Hamczyk, Ricardo Villa-Bellosta, and Vicente Andrés</i>	
17	Glucose and Insulin Tolerance Tests in the Mouse.	247
	<i>Ángela Vinué and Herminia González-Navarro</i>	
18	Wire Myography to Study Vascular Tone and Vascular Structure of Isolated Mouse Arteries	255
	<i>Lara del Campo and Mercedes Ferrer</i>	
19	Pressure Myography to Study the Function and Structure of Isolated Small Arteries	277
	<i>Olav L. Schjørring, Rune Carlsson, and Ulf Simonsen</i>	
20	Generation of Aorta Transcript Atlases of Wild-Type and Apolipoprotein E-null Mice by Laser Capture Microdissection-Based mRNA Expression Microarrays	297
	<i>Changjun Yin, Sarajo Mohanta, Zhe Ma, Christian Weber, Desheng Hu, Falk Weih, and Andreas Habenicht</i>	
21	Analysis of Gene and Protein Expression in Atherosclerotic Mouse Aorta by Western Blot and Quantitative Real-Time PCR.	309
	<i>José Rivera-Torres</i>	
22	Bone Marrow Transplantation in Mice to Study the Role of Hematopoietic Cells in Atherosclerosis	323
	<i>Vinatha Sreeramkumar and Andrés Hidalgo</i>	
23	Tandem Stenosis to Induce Atherosclerotic Plaque Instability in the Mouse.	333
	<i>Yung Chih Chen, Jennifer Rivera, and Karlheinz Peter</i>	
24	Detection of Intraplaque Hemorrhage in Mouse Atherosclerotic Lesions	339
	<i>Judith C. Sluimer, Marion J. Gijbels, and Sylvia Heeneman</i>	
25	Mechanical Stabilization of Mouse Carotid Artery for In Vivo Intravital Microscopy Imaging of Atherogenesis	349
	<i>Raphaël Chèvre</i>	
26	Intravital Microscopy in the Cremaster Muscle Microcirculation for Endothelial Dysfunction Studies	357
	<i>Cristina Rius and María J. Sanz</i>	
27	Fluorescent Molecular Tomography for In Vivo Imaging of Mouse Atherosclerosis	367
	<i>Alicia Arranz, Markus Rudin, Carlos Zaragoza, and Jorge Ripoll</i>	

28	In Vivo ¹⁸ F-FDG-PET Imaging in Mouse Atherosclerosis	377
	<i>Jesús Mateo, Izaskun Bilbao, Juan José Vaquero, Jesús Ruiz-Cabello, and Samuel España</i>	
29	Magnetic Resonance Imaging of the Atherosclerotic Mouse Aorta	387
	<i>Jesús Mateo, Marina Benito, Samuel España, Javier Sanz, Jesús Jiménez-Borreguero, Valentín Fuster, and Jesús Ruiz-Cabello</i>	
	<i>Index</i>	395

Methods in Mouse Atherosclerosis

Andres, V.; Dorado, B. (Eds.)

2015, XIV, 400 p. 74 illus., 58 illus. in color., Hardcover

ISBN: 978-1-4939-2928-3

A product of Humana Press