

# The Molecular and Cellular Biology of Wound Repair

Edited by

R. A. F. Clark

and

P. M. Henson

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*National Jewish Center for Immunology and Respiratory Medicine  
Denver, Colorado*

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Cover illustration: Scanning electron micrograph of femoral artery demonstrating fibrin strand formation and platelet deposition. (See Chapter 4, Figure 11b.)

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# Preface

Editing a book of this nature was a simultaneously exhilarating and frightening experience. It was exhilarating to draw from cell biologists, biochemists, and molecular biologists, as well as those dermatologists, pathologists, and pulmonologists who are cell biologists at heart, to author chapters. At the same time, it was frightening to ask such busy investigators to devote their precious time to writing chapters that summarize not just their own endeavors but their entire area of expertise. However, the authors assuaged our fears by enthusiastically accepting the proposal to write on specific topics despite the time burden, and to update and willingly accept our editorial comments. In the editors' view, the authors have captured the important scientific data in their respective fields, have organized the data into an understandable outline, and have applied the information to elucidating wound repair processes.

The explosion of new, important discoveries in the field of wound repair and related areas as our book was developing has been very unsettling. This observation predicts obsolescence. In response to this possibility, the authors and the editors have attempted to build fundamental concepts upon existing data. Hopefully, these concepts will help provoke further experimentation to unravel the complex, interwoven processes of wound repair.

The book has been organized into three parts: Inflammation, Granulation Tissue Formation, and Extracellular Matrix Production and Remodeling. We believe that these parts comprehensively cover the molecular and cellular processes of wound repair that occurs when tissue damage has been sufficient to destroy tissue architecture and elicit a fibrotic response. What is not covered to any great extent are the processes that occur during tissue regeneration, that is, the repopulation of an injured area with tissue-specific parenchymal cells, as occurs when tissue damage has been insufficient to destroy the tissue architecture. In fact, the original intention of the editors was to have a fourth section entitled Tissue Regeneration, which would have drawn upon the expertise of investigators in the fields of lung, bone, liver, gastrointestinal, cardiovascular, nerve, and skin research. However, the length of the book became unwieldy and the only vestige of this plan lies in Chapter 23, which covers dermal-epidermal reepithelialization. Perhaps a future edition or, more likely, a second book, on the important topic of tissue regeneration will be generated.

This book is intended for all students of wound healing, who quest to understand the phenomenology of tissue repair at the level of molecular and cellular biology.



The editors would like to express their deep gratitude to the authors, without whom this book would have been only an idea and not a completed work. Special thanks goes to Pam Kirby, our managing editor, who organized the manuscripts into a book, corrected syntax, spelling, and punctuation, checked bibliographies against text references, and, finally, indexed the book. Thanks also go to our wives Marcia and Jan, our fellow workers, and the secretaries in the departments of Medicine and Pediatrics at the National Jewish Center for Immunology and Respiratory Medicine, who bore up under the immense pressure that overflowed from us onto them. Finally, our thanks to Plenum for patiently awaiting the final work.

Richard A. F. Clark  
Peter M. Henson  
Denver

# Contents

## PART I. INFLAMMATION

### Chapter 1

#### Overview and General Considerations of Wound Repair

Richard A. F. Clark

1. Overview .....	3
2. Inflammation .....	5
3. Granulation Tissue .....	9
3.1. Re-epithelialization .....	10
3.2. Fibroplasia and Wound Contraction .....	11
3.3. Neovascularization .....	13
4. Matrix Formation and Remodeling .....	16
4.1. Fibronectin .....	17
4.2. Hyaluronic Acid .....	18
4.3. Proteoglycans .....	19
4.4. Collagen .....	20
4.5. Basement Membranes .....	22
References .....	23

### Chapter 2

#### Platelets and Response to Injury

Robert A. Terkeltaub and Mark H. Ginsberg

1. Introduction .....	35
2. Morphology and Composition of Platelets as They Relate to Inflammatory Functions .....	35
3. The Platelet as a Source of Mediators in Inflammation and Wound Repair .....	36
4. Platelet-Adhesive Mechanisms and Their Relationship to Endothelium .....	39
5. Potential Activators of Platelets in Inflammatory Diseases .....	42
5.1. Platelet-Activating Factor .....	43
5.2. Antibody-Mediated Platelet Activation .....	43
5.3. Collagen and Other Surfaces as Platelet Activators .....	44
5.4. Effects of Complement, DNA, and LPS on Platelet Activation .....	44

6. Platelets in Animal Models of Inflammatory Diseases and Wound Healing .....	45
7. Platelets in Human Disease and Wound Healing .....	46
7.1. Approaches to Document Platelet Localization and Activation in Inflammation and Wound Repair .....	46
8. Summary .....	48
References .....	48

## Chapter 3

### Potential Functions of the Clotting System in Wound Repair

Harold F. Dvorak, Allen P. Kaplan, and  
Richard A. F. Clark

1. Introduction .....	57
2. Extrinsic Coagulation Pathway .....	58
2.1. Monocyte/Macrophage Procoagulant Activities .....	59
2.2. Tissue Factor-like Activity in Shed Membrane Vesicles .....	61
3. Intrinsic Coagulation Pathway .....	61
3.1. Hageman Factor .....	62
3.2. Kallikrein .....	63
3.3. Kininogen .....	63
3.4. Surface .....	64
3.5. Initiation by Hageman Factor .....	64
3.6. Formation of Bradykinin in Plasma: A Product of the Intrinsic Coagulation Pathway .....	65
4. Platelet Role in Coagulation .....	66
5. Fibrin Formation .....	68
6. Fibrinolysis .....	68
7. Control Mechanisms .....	69
7.1. Intrinsic Controls .....	69
7.2. Extrinsic Controls .....	70
8. Microvascular Permeability and Extravascular Fibrin Deposition ..	72
8.1. Role of Extravascular Coagulation in Wound Repair .....	73
9. Conclusions .....	77
References .....	77

## Chapter 4

### Endothelial Cell Regulation of Coagulation

David M. Stern, Dean Handley, and Peter P. Nawroth

1. Introduction .....	87
2. Initiation of Coagulation by Endothelium: Tissue Factor and Interleukin-1 .....	89
3. Assembly of Procoagulant and Anticoagulant Complexes on the Endothelial Cell Surface .....	92

3.1. Interaction of Factors IX/IXa with Endothelial Cells .....	96
3.2. The Prothrombinase Complex and Recruitment of Platelets by Endothelial Cell Coagulation Pathway .....	98
3.3. Interaction of Antithrombin III with Anticoagulant Active Heparin-like Molecules Associated with the Vessel Wall ....	101
3.4. The Protein C Pathway and Endothelium .....	103
4. Endothelial Cell Responses to Cell-Surface Coagulant Events ....	105
4.1. Endocytosis of Factors X and Xa .....	105
4.2. Factor Xa as a Hormonal Agent .....	106
5. Induction of a Unidirectional Shift in the Coagulant Phenotype of Endothelial Cells: A Model for the Thrombotic State .....	107
6. Summary .....	110
References .....	111

## Chapter 5

### Factors That Affect Vessel Reactivity and Leukocyte Emigration

Timothy J. Williams

1. Introduction .....	115
2. Direct Injury to Blood Vessels .....	116
3. Concept and Classification of Inflammatory Mediators .....	117
4. Mediators Affecting Vessel Tone .....	118
4.1. Physiologic Control of Vessel Tone .....	118
4.2. Direct-Action and Endothelium-Dependent Vasodilator Mechanisms .....	118
4.3. Histamine-Induced Vasodilatation .....	119
4.4. 5-Hydroxytryptamine and Vessel Tone .....	121
4.5. Kinin-Induced Vasodilatation .....	121
4.6. Prostaglandins, Thromboxane A <sub>2</sub> and Vessel Tone .....	123
4.7. Leukotrienes and Vessel Tone .....	124
4.8. Platelet Activating Factor and Vessel Tone .....	124
4.9. Neuropeptides and Vessel Tone .....	125
5. Leukocyte Chemoattractants .....	126
5.1. C5a .....	128
5.2. Formyl Peptides .....	129
5.3. Leukotriene B <sub>4</sub> .....	129
5.4. Modulation of Leukocyte Accumulation .....	129
6. Mediators Increasing Microvascular Permeability .....	131
6.1. Mediators Increasing Permeability by a Direct Action on the Vessel Wall .....	131
6.2. Modulation of Plasma Protein Extravasation .....	133
6.3. Increased Permeability Induced by Leukocyte Chemoattractants .....	135
7. Conclusion .....	137
References .....	138

## Chapter 6

**Neutrophil Emigration, Activation, and Tissue Damage**

Marcia G. Tonnesen, G. Scott Worthen, and  
Richard B. Johnston, Jr.

1. Introduction .....	149
2. Adherence of Neutrophils to Vascular Endothelium .....	150
2.1. In Vivo Observations .....	152
2.2. Inflammatory Mediators and Biochemical Mechanisms .....	153
2.3. Hemodynamic and Physical Effects .....	156
3. Migration of Neutrophils through Vascular Endothelium .....	157
3.1. In Vivo Observations .....	158
3.2. Effect of Inflammatory Mediators and Participation by the Endothelium .....	158
4. Migration of Neutrophils through Connective Tissue .....	159
4.1. In Vivo Observations .....	161
4.2. Attachment to Vascular Basement Membrane .....	161
4.3. Degradation of Vascular Basement Membrane .....	162
4.4. Locomotion through Extracellular Matrix .....	163
5. Phagocytic Killing of Microorganisms by Neutrophils .....	165
6. Neutrophil Secretion and the Potential for Tissue Injury .....	167
6.1. Effects of LPS on Neutrophils .....	169
6.2. Oxygen Radicals and Tissue Injury .....	170
6.3. Neutral Proteases and Tissue Injury .....	172
6.4. Nonenzymatic Cationic Proteins and Tissue Injury .....	174
7. Conclusion .....	175
References .....	176

## Chapter 7

**Resolution of Inflammation**

Christopher Haslett and Peter M. Henson

1. Introduction .....	185
2. The Inflammatory Response .....	186
3. Resolution of Inflammation .....	187
3.1. Mediator Dissipation .....	187
3.2. Cessation of Granulocyte Influx .....	192
3.3. Restoration of Normal Microvascular Permeability .....	194
3.4. Control of Inflammatory Cell Secretion .....	196
3.5. Monocyte Migration and Maturation .....	197
3.6. Clearance Removal of Fluid, Proteins, Debris, and Cells .....	200
4. Summary .....	205
5. Speculation .....	206
5.1. Importance of Resolution Mechanisms in Host Defense against Injury .....	206

5.2. Termination of Inflammation by Processes Other Than Resolution .....	206
References .....	207

## Chapter 8

### The Multiple Roles of Macrophages in Wound Healing

David W. H. Riches

1. Introduction .....	213
2. Origin and Kinetics of Macrophages .....	214
2.1. Steady-State Conditions .....	215
2.2. Inflammatory Conditions .....	215
3. Monocyte Migration and the Role of Connective Tissue Components .....	217
3.1. Multiplicity of in Vivo Monocyte Chemotactic Factors .....	217
3.2. Complement Component Fragments C5a and C5a des Arg ...	218
3.3. Connective Tissue Matrix Proteins .....	219
3.4. Interactions with Multiple Chemotactic Factors .....	220
4. Monocyte Maturation and Differentiation .....	221
4.1. Monocyte-Macrophage Maturation .....	221
4.2. Macrophage Phenotypic Differentiation and Activation .....	223
5. Role of Mononuclear Phagocytes in Tissue Debridement .....	224
5.1. Degradation of the Connective Tissue Matrix .....	224
5.2. Extracellular Degradation of the Connective Tissue Matrix ..	225
5.3. Intracellular Degradation of the Connective Tissue Matrix ...	226
5.4. Regulation of Fibroblast Collagenase Secretion by Macrophages .....	227
6. Macrophage Involvement in Tissue Remodeling .....	228
6.1. Macrophage-Derived Growth Factor .....	229
6.2. Macrophage Involvement in Tissue Neovascularization .....	229
6.3. Macrophages and the Regulation of Connective Tissue Matrix Synthesis .....	232
7. Concluding Comments .....	232
References .....	233

## PART II. GRANULATION TISSUE FORMATION

## Chapter 9

### The Role of Growth Factors in Tissue Repair I: Platelet-Derived Growth Factor

Jung San Huang, Thomas J. Olsen, and  
Shuan Shiang Huang

1. Introduction .....	243
2. Identification and Properties of Platelet-Derived Growth Factor ..	244

3. Mitogenic Activity of Platelet-Derived Growth Factor .....	245
4. Chemotactic Activity of Platelet-Derived Growth Factor .....	245
5. Role of Platelet-Derived Growth Factor in Wound Healing .....	246
6. Plasma Clearance and Inhibitor of Platelet-Derived Growth Factor .....	246
7. Conclusions .....	248
References .....	248

## Chapter 10

### **The Role of Growth Factors in Tissue Repair II: Epidermal Growth Factor**

Allen R. Banks

1. History .....	253
2. Structure .....	253
3. Sources of Epidermal Growth Factor .....	254
4. Molecular Biology .....	254
5. Epidermal Growth Factor Receptor .....	255
6. <i>In Vitro</i> Effects of Epidermal Growth Factor .....	256
7. <i>In Vivo</i> Effects of Epidermal Growth Factor .....	257
8. Summary .....	258
References .....	258

## Chapter 11

### **The Role of Growth Factors in Tissue Repair III: Fibroblast Growth Factor**

Gary M. Fox

1. Introduction .....	265
2. Molecular Biology and Biochemistry .....	266
3. Biologic Properties .....	267
4. Wound-Healing Studies .....	268
5. Conclusion .....	269
References .....	269

## Chapter 12

### **The Role of Growth Factors in Tissue Repair IV: Type $\beta$ - Transforming Growth Factor and Stimulation of Fibrosis**

Richard K. Assoian

1. Introduction .....	273
2. Identification of TGF- $\beta$ .....	273
3. TGF- $\beta$ in Non-Neoplastic Tissues and Cells .....	274
4. TGF- $\beta$ and Wound Repair .....	274
4.1. Sources of TGF- $\beta$ .....	274
4.2. Latent TGF- $\beta$ .....	275

4.3. Actions of TGF- $\beta$ <i>in Vivo</i> .....	275
4.4. Effects of TGF- $\beta$ on Matrix Protein Formation <i>in Vitro</i> .....	277
4.5. Effects of TGF- $\beta$ on Fibroblast Proliferation <i>in Vitro</i> .....	277
5. Conclusion .....	278
References .....	278

## Chapter 13

### Mechanisms of Parenchymal Cell Migration into Wounds

James B. McCarthy, Daryl F. Sas, and Leo T. Furcht

1. Introduction .....	281
2. Mechanisms of Directing Cell Motility .....	281
2.1. Chemotaxis .....	282
2.2. Haptotaxis .....	284
2.3. Contact Guidance .....	285
2.4. Migration of Cell Sheets .....	286
2.5. <i>In Vivo</i> Cell Movement .....	287
3. Extracellular Matrices .....	287
4. Molecular Basis of Cell-Substratum Adhesion .....	291
4.1. Structural and Cytoskeletal Aspects of Cell Adhesion .....	293
4.2. Membrane Receptors for Fibronectin .....	294
4.3. Cell-Adhesion Domains of Fibronectin .....	296
5. Migration of Specific Cell Populations into Wounds .....	299
5.1. Fibroblasts .....	299
5.2. Endothelial Cells .....	304
5.3. Movement of Keratinocytes and Other Epithelial Cells .....	306
6. Concluding Remarks .....	308
References .....	308

## Chapter 14

### Re-epithelialization

Kurt S. Stenn and Louis DePalma

1. Introduction .....	321
2. Morphology of Epithelial Migration in Wounds .....	322
3. Substrate and Epithelial Migration in Wounds .....	325
4. Metabolic Requirements and Epithelial Migration .....	328
4.1. Protein Synthesis .....	328
4.2. cAMP .....	328
4.3. Cytoskeleton .....	329
4.4. Energy .....	329
4.5. Divalent Cations .....	329
4.6. Serum Protein .....	330
5. Perspectives .....	330
References .....	331



**Chapter 15****Angiogenesis**

Joseph A. Madri and Bruce M. Pratt

1. Introduction .....	337
2. Stimulation .....	338
3. Migration .....	339
4. Proliferation .....	342
5. Tube Formation and Stabilization .....	345
6. Capillary Regression .....	349
7. Conclusions and Speculations .....	352
References .....	353

**Chapter 16****The Role of Cell-Cell Interaction in the Regulation of Endothelial Cell Growth**

Ronald L. Heimark and Stephen M. Schwartz

1. Introduction: The Quiescent Cell .....	359
2. Endothelium as a Model System of Quiescence .....	360
2.1. <i>In Vivo</i> Studies .....	360
2.2. <i>In Vitro</i> Studies .....	361
2.3. Cell-Cell Interaction and Quiescence .....	361
3. The Contact-Inhibition Controversy .....	361
4. Endothelial Cell Growth Inhibitory Protein(s) .....	365
5. Location of a Growth-Inhibitory Protein .....	366
6. Summary .....	369
References .....	369

**Chapter 17****The Biology of the Myofibroblast Relationship to Wound Contraction and Fibrocontractive Diseases**

Omar Skalli and Giulio Gabbiani

1. Definition and Characterization of Wound Contraction .....	373
2. The Myofibroblast .....	374
2.1. Ultrastructure and Biochemical Features .....	374
2.2. Pharmacologic Features .....	378
2.3. Factors Influencing Wound Contraction and Role of Myofibroblasts in Wound Contraction .....	381
2.4. Distribution of Myofibroblasts in Normal and Pathologic Tissues .....	384
2.5. Cellular Origin .....	385
2.6. The Myofibroblast in Culture .....	388