

# Contents

## Part I Pathophysiology

|                                                                                                   |     |
|---------------------------------------------------------------------------------------------------|-----|
| <b>Platelets: Production, Morphology and Ultrastructure</b> . . . . .                             | 3   |
| Jonathan N. Thon and Joseph E. Italiano                                                           |     |
| <b>Platelet Receptors</b> . . . . .                                                               | 23  |
| Alexandre Kauskot and Marc F. Hoylaerts                                                           |     |
| <b>Platelet Signaling</b> . . . . .                                                               | 59  |
| Timothy J. Stalker, Debra K. Newman, Peisong Ma,<br>Kenneth M. Wannemacher, and Lawrence F. Brass |     |
| <b>Platelet Interaction with the Vessel Wall</b> . . . . .                                        | 87  |
| Philip G. de Groot, Rolf T. Urbanus, and Mark Roest                                               |     |
| <b>Platelets in Atherosclerosis and Thrombosis</b> . . . . .                                      | 111 |
| Christian Schulz and Steffen Massberg                                                             |     |

## Part II Pharmacology

|                                                                                                                                 |     |
|---------------------------------------------------------------------------------------------------------------------------------|-----|
| <b>Aspirin and Other COX-1 Inhibitors</b> . . . . .                                                                             | 137 |
| Carlo Patrono and Bianca Rocca                                                                                                  |     |
| <b>Thienopyridines and Other ADP-Receptor Antagonists</b> . . . . .                                                             | 165 |
| Isabell Bernlochner and Dirk Sibbing                                                                                            |     |
| <b>Glycoprotein IIb/IIIa Antagonists</b> . . . . .                                                                              | 199 |
| Karen M. Hook and Joel S. Bennett                                                                                               |     |
| <b>Targeting Phosphodiesterases in Anti-platelet Therapy</b> . . . . .                                                          | 225 |
| Matthew T. Rondina and Andrew S. Weyrich                                                                                        |     |
| <b>PAR-1 Inhibitors: A Novel Class of Antiplatelet Agents for the<br/>Treatment of Patients with Atherothrombosis</b> . . . . . | 239 |
| Sergio Leonardi and Richard C. Becker                                                                                           |     |

|                                                                                                         |            |
|---------------------------------------------------------------------------------------------------------|------------|
| <b>Thromboxane Receptors Antagonists and/or Synthase Inhibitors . . .</b>                               | <b>261</b> |
| Giovanni Davì, Francesca Santilli, and Natale Vazzana                                                   |            |
| <b>Inhibitors of the Interaction Between von Willebrand Factor<br/>and Platelet GPIb/IX/V . . . . .</b> | <b>287</b> |
| Paolo Gresele and Stefania Momi                                                                         |            |
| <b>Inhibitors of the Interactions Between Collagen and Its Receptors<br/>on Platelets . . . . .</b>     | <b>311</b> |
| Hans Deckmyn, Simon F. De Meyer, Katleen Broos,<br>and Karen Vanhoorelbeke                              |            |
| <b>Intracellular Signaling as a Potential Target for Antiplatelet<br/>Therapy . . . . .</b>             | <b>339</b> |
| Patrick Andre                                                                                           |            |
| <b>Novel Targets for Platelet Inhibition . . . . .</b>                                                  | <b>369</b> |
| Kathleen Freson and Chris Van Geet                                                                      |            |
| <b>Variability of Platelet Indices and Function: Acquired and Genetic<br/>Factors . . . . .</b>         | <b>395</b> |
| Giovanni de Gaetano, Iolanda Santimone, Francesco Gianfagna,<br>Licia Iacoviello, and Chiara Cerletti   |            |
| <b>Small RNAs as Potential Platelet Therapeutics . . . . .</b>                                          | <b>435</b> |
| Leonard C. Edelstein and Paul F. Bray                                                                   |            |
| <b>Pharmacological Modulation of the Inflammatory Actions<br/>of Platelets . . . . .</b>                | <b>447</b> |
| Richard Amison, Clive Page, and Simon Pitchford                                                         |            |
| <b>Part III    Therapy</b>                                                                              |            |
| <b>The Role of Laboratory Monitoring in Antiplatelet Therapy . . . . .</b>                              | <b>471</b> |
| Marco Cattaneo                                                                                          |            |
| <b>Antiplatelet Agents in Ischemic Heart Disease . . . . .</b>                                          | <b>495</b> |
| Christopher H. May and A. Michael Lincoff                                                               |            |
| <b>Antiplatelet Therapy in Cerebrovascular Disorders . . . . .</b>                                      | <b>519</b> |
| Ralph Weber, Johannes Brenck, and Hans-Christoph Diener                                                 |            |
| <b>Antiplatelet Therapy in Peripheral Artery Disease . . . . .</b>                                      | <b>547</b> |
| Francesco Violi, Stefania Basili, Jeffrey S. Berger, and William R. Hiatt                               |            |
| <b>Primary Prevention of Ischaemic Cardiovascular Disorders<br/>with Antiplatelet Agents . . . . .</b>  | <b>565</b> |
| Tom Meade                                                                                               |            |
| <b>Index . . . . .</b>                                                                                  | <b>607</b> |