


Contents

Introduction Alan R. Shalita *iii*

Preface *v*

Contributors *ix*

PART I: THE BIOLOGY OF THE SEBACEOUS GLAND AND PATHOPHYSIOLOGY OF ACNE

- 1. Overview of the Pathogenesis of Acne 1**
Guy F. Webster

- 2. Cell Biology of the Pilosebaceous Unit 9**
Helen Knaggs

- 3. Sebum Secretion and Acne 37**
Philip W. Wertz

- 4. The Molecular Biology of Retinoids and Their Receptors 45**
Anthony V. Rawlings

- 5. Molecular Biology of Peroxisome Proliferator-Activated Receptors
in Relation to Sebaceous Glands and Acne 55**
Michaela M. T. Downie and Terence Kealey

- 6. Antimicrobial Peptides and Acne 75**
Michael P. Philpott

PART II: ACNE TREATMENTS

- 7. Hormonal Influences in Acne 83**
Diane Thiboutot

- 8. Antimicrobial Therapy in Acne 97**
Guy F. Webster

- 9. Topical Retinoids 103**
Daniela Kroshinsky and Alan R. Shalita

- 10. Phototherapy and Laser Therapy of Acne 113**
Guy F. Webster

- 11. Benzoyl Peroxide and Salicylic Acid Therapy 117**
Gabi Gross
- 12. Treating Acne with Octadecenedioic Acid: Mechanism of Action, Skin Delivery, and Clinical Results 137**
Johann W. Wiechers, Anthony V. Rawlings, Nigel Lindner, and William J. Cunliffe
- 13. The Effect of Sphingolipids as a New Therapeutic Option for Acne Treatment 155**
Saskia K. Klee, Mike Farwick, and Peter Lersch
- 14. 5 α -Reductase and Its Inhibitors 167**
Rainer Voegeli, Christos C. Zouboulis, Peter Elsner, and Thomas Schreier

PART III: ACTIVE DELIVERY, FORMULATION, AND TESTING

- 15. Sebum: Physical–Chemical Properties, Macromolecular Structure, and Effects of Ingredients 203**
Linda D. Rhein, Joel L. Zatz, and Monica R. Motwani
- 16. Targeted Delivery of Actives from Topical Treatment Products to the Pilosebaceous Unit 223**
Linda D. Rhein, Joel L. Zatz, and Monica R. Motwani
- 17. Topical Therapy and Formulation Principles 253**
Steve Boothroyd
- 18. In Vitro Models for the Evaluation of Anti-acne Technologies 275**
John Bajor

Index 303