

CONTENTS

| | |
|---|-----------|
| Foreword by David M. de Kretser | <i>v</i> |
| Preface by A. H. Payne, M. P. Hardy and L. D. Russell | <i>vi</i> |
| Historical Introduction | |
| 1. A History of Studies on Testicular Leydig Cells: The First Century | 1-30 |
| <i>A.K. Christensen</i> | |
| 2. Androgens: Early Attempts to Evaluate Leydig Cell Function in Man | 31-42 |
| <i>C.W. Bardin</i> | |
| Structure and Development | |
| 3. Mammalian Leydig Cell Structure | 43-96 |
| <i>L. D. Russell</i> | |
| 4. Comparative Cytology of the Leydig Cell | 97-142 |
| <i>J. Pudney</i> | |
| 5. The Cell Biology and Function of the Fetal Leydig Cell | 143-158 |
| <i>L. J. Pelliniemi, T. Kuopio and K. Fröjdman</i> | |
| 6. Pubertal Development of Leydig Cells | 159-174 |
| <i>R.-S. Ge, L.-X. Shan and M. P. Hardy</i> | |
| 7. Leydig Cell Development in Humans | 175-202 |
| <i>H. E. Chemes</i> | |
| 8. Regeneration of Leydig Cells After Depletion by EDS: A Model for Postnatal Leydig Cell Renewal <i>K. J. Teerds</i> | 203-220 |
| 9. Leydig Cell Structure and Function During Aging | 221-230 |
| <i>H. Chen, L. Luo and B. R. Zirkin</i> | |
| Steroidogenesis | |
| 10. Regulation of Leydig Cell Cholesterol Transport | 231-240 |
| <i>D. A. Freeman and F. F. G. Rommerts</i> | |
| 11. Acute Regulation of Leydig Cell Steroidogenesis | 241-258 |
| <i>D. M. Stocco</i> | |
| 12. Structure, Function and Regulation of Steroidogenic Enzymes in the Leydig Cell..... | 259-286 |
| <i>A. H. Payne and P. J. O'Shaughnessy</i> | |
| 13. Metabolism of Testosterone in Leydig Cells and Peripheral Tissues | 287-306 |
| <i>K. Sundaram and N. Kumar</i> | |
| 14. Endocrinology of Leydig Cells in Nonmammalian Vertebrates..... | 307-332 |
| <i>G. V. Callard</i> | |
| Regulation by Luteinizing Hormone | |
| 15. The Luteinizing Hormone Receptor | 333-350 |
| <i>M. L. Dufau</i> | |
| 16. Transduction of the Luteinizing Hormone Signal Within the Leydig Cell | 351-364 |
| <i>B. A. Cooke</i> | |
| 17. Ontogeny of the Luteinizing Hormone Action in the Male | 365-382 |
| <i>I. Huhtaniemi</i> | |

Regulation By Factors Other Than Luteinizing Hormone

18. Regulation of Leydig Cell Functions by Hormones and Growth Factors
Other Than LH and IGF-1 383-406
J. M. Saez and H. Lejeune
19. Leydig Cell Regulation by Catecholamines and Neuroendocrine Messengers 407-418
A. Mayerhofer

Color Section 419-430

20. Leydig Cell Structure and Function in Seasonal Breeders 431-450
A. Bartke, A. P. Sinha Hikim and L. D. Russell
21. Leydig Cell-Macrophage Interactions: An Overview 451-466
D. B. Hales
22. Leydig Cell-Sertoli Cell Interaction 467-476
S. R. Sylvester
23. Insulin-Like Growth Factor-I Regulation of the Leydig Cell 477-492
T. Lin
24. Regulation of Leydig Cells by Inhibins and Activins 493-506
G. P. Risbridger

Physiological, Pathological and Clinical Aspects of Leydig Cells

25. Fluid Exchange and Transport of Endocrine and Paracrine Solutes Supporting the Leydig Cell
C. Desjardins 507-522
26. Immortalized Leydig Cell Lines as Models for Studying Leydig Cell Physiology
S. R. Hoelscher and M. Ascoli 523-534
27. Leydig Cell Responsiveness to Hormonal and Nonhormonal Factors *In Vivo* and *In Vitro*
G. R. Klinefelter and W. R. Kelce 535-554
28. Leydig Cell Neoplasia 555-572
R. A. Huseby
29. Leydig Cell Toxicology 573-596
I. D. Morris
30. Pharmacologic Influence on Androgen Biosynthesis 597-628
V. Papadopoulos
31. The Leydig Cell as a Target for Male Contraception 629-662
G. F. Weinbauer and E. Nieschlag
32. Clinical Evaluation of Leydig Cell Function 663-694
R. S. Swerdloff and C. Wang
33. Involvement of Leydig Cell Function in Precocious Puberty 695-702
J. Z. Kasa-Vubu
34. Conditions Affecting Leydig Cells 703-734
S. M. L. C. Mendis-Handagama

Appendices I. Bibliographic Information 735-802