Contents

Introduction: Proper Nomenclature Facilitates Clinical and Translational Research in Prostate Cancer ........................................... 1
James L. Mohler and Donald J. Tindall

Part I: The Role of Androgens in Development of the Normal Prostate and Progression of Prostate Cancer

Androgen Action and Modulation of Prostate and Prostate Cancer Growth: An Historical Perspective .................................................. 9
Shutsung Liao, John M. Kokontis, Chih-Pin Chuu, and Richard A. Hiipakka

Clinical Progression to Castration-Recurrent Prostate Cancer .......... 57
Mark Pomerantz and Philip Kantoff

Differential Roles of Androgen Receptor in Prostate Development and Cancer Progression ................................................................. 73
Shuyuan Yeh, Yuanjie Niu, Hiroshi Miyamoto, Tamin Chang, and Chawnshang Chang

Imaging Androgen Receptor Function In Vivo ................................. 91
Michael Carey and Lily Wu

Part II: Androgen Metabolism

Increased Expression of Genes Converting Adrenal Androgens to Testosterone in Castration-Recurrent Prostate Cancer ................. 123
Steven P. Balk
Multitasking and Interplay Between the Androgen Receptor Domains ................................................................. 385
F. Claessens, T. Tanner, and A. Haelens

Chromatin Remodeling and Androgen Receptor-Mediated Transcription ........................................... 405
Li Jia, Omar Khalid, Baruch Frenkel, and Gerhard A. Coetzee

Part V: Ligand-Independent Activation of the Androgen Receptor

Ligand-Independent Androgen Receptor Activity ....................... 427
Scott M. Dehm and Donald J. Tindall

Role of IL-6 in Regulating the Androgen Receptor ..................... 451
Zoran Culig and Alfred Hobisch

The Role of Cyclic AMP in Regulating the Androgen Receptor ......... 465
Marianne D. Sadar

Part VI: Role of the Androgen Receptor in Prostate Cancer During Castration

Cellular and Molecular Signatures of Androgen Ablation of Prostate Cancer ............................................................ 507
Clifford G. Tepper and Hsing-Jien Kung

Tissue Levels of Androgens in Castration-Recurrent Prostate Cancer ............................................................... 553
James L. Mohler and Mark A. Titus

Unique Effects of Wnt Signaling on Prostate Cancer Cells: Modulation of the Androgen Signaling Pathway by Interactions of the Androgen Receptor Gene and Protein with Key Components of the Canonical Wnt Signaling Pathway ...................... 569
Matthew J. Tanner, Elina Levina, Michael Shtutman, Mengqian Chen, Patrice Ohouo, and Ralph Buttyan

The Role of Foxa Proteins in the Regulation of Androgen Receptor Activity ......................................................... 587
David J. DeGraff, Xiuping Yu, Qian Sun, Janni Mirosevich, Ren Jie Jin, Yongqing Wang, Aparna Gupta, Srinivas Nandana, Thomas Case, Manik Paul, Hong-Ying Huang, Ellen Shapiro, Susan Logan, Kichiya Suzuki, Marie-Claire Orgebin-Crist, and Robert J. Matusik
Part VII: Androgen-Regulated Genes during Prostate Cancer Progression

Androgen Receptor as a Licensing Factor for DNA Replication ........ 619
Donald J. Vander Griend and John T. Isaacs

Androgen-Regulated Genes in the Prostate ............................... 631
Nigel Clegg and Peter S. Nelson

Mapping the Androgen Receptor Cistrome ............................... 663
Qianben Wang and Myles Brown

Differential Regulation of Clusterin Isoforms by the Androgen Receptor ........................................ 681
Tanya K. Day, Colleen C. Nelson, and Martin E. Gleave

Androgen Regulation of Prostate Cancer Gene Fusions .................. 701
Rou Wang, Scott A. Tomlins, and Arul M. Chinnaiyan

Androgens and the Lipogenic Switch in Prostate Cancer ............... 723
Johannes V. Swinnen, Koen Brusselmans, Hannelore V. Heemers,
and Guido Verhoeven

Part VIII: The Androgen Receptor as a Drugable Target

Molecular Biology of Novel Targets Identified Through Study of Castration-Recurrent Prostate Cancer ......................... 743
Philip A. Watson and Charles L. Sawyers

Selenium and Androgen Receptor in Prostate Cancer ................... 755
Nagalakshmi Nadiminty and Allen C. Gao

Index ..................................................................................... 781
Androgen Action in Prostate Cancer
Tindall, D.J.; James, M. (Eds.)
2009, VIII, 826 p., Hardcover
ISBN: 978-0-387-69177-0