

Contents

Part I Angiogenesis

1 Genes and Regulatory Pathways Involved in Persistence of Dormant Micro-tumors.....	3
Nava Almog	
2 The Host Support Niche as a Control Point for Tumor Dormancy: Implications for Tumor Development and Beyond.....	19
Philip Hahnfeldt	
3 Insights into the Regulation of Tumor Dormancy by Angiogenesis in Experimental Tumors	37
Stefano Indraccolo	

Part II Stem Cells and Signaling Pathways

4 Cancer Stem Cells and Tumor Dormancy	55
Heiko Enderling	
5 Regulation of Tumor Cell Dormancy by Tissue Microenvironments and Autophagy	73
Maria Soledad Sosa, Paloma Bragado, Jayanta Debnath, and Julio A. Aguirre-Ghiso	
6 Tumor Dormancy, Oncogene Addiction, Cellular Senescence, and Self-Renewal Programs.....	91
David I. Bellovin, Bikul Das, and Dean W. Felsher	

Part III Immune System

7 Multifaceted Kinetics of Immuno-Evasion from Tumor Dormancy	111
Alberto d’Onofrio	

8 Tumor Dormancy and Cancer Stem Cells: Two Sides of the Same Coin?	145
Sonja Kleffel and Tobias Schatton	
9 Tumor Dormancy: Long-Term Survival in a Hostile Environment	181
Bruno Quesnel	
10 A Review of Mathematical Models of Cancer–Immune Interactions in the Context of Tumor Dormancy	201
Kathleen P. Wilkie	
Part IV Mathematical Biosciences and Dynamical Systems Modeling	
11 Regulation of Tumor Dormancy and Role of Microenvironment: A Mathematical Model	237
Yangjin Kim and Khalid Boushaba	
12 Seeing the Invisible: How Mathematical Models Uncover Tumor Dormancy, Reconstruct the Natural History of Cancer, and Assess the Effects of Treatment	261
Leonid Hanin	
Index	283

Systems Biology of Tumor Dormancy

Enderling, H.; Almog, N.; Hlatky, L. (Eds.)

2013, XVIII, 294 p., Hardcover

ISBN: 978-1-4614-1444-5