

# Contents

<b>1</b>	<b>Role of the Immunological Environment in Cancer Initiation, Development and Progression . . . . .</b>	<b>1</b>
	Anatoli Malyguine, Viktor Umansky and Michael R. Shurin	
 <b>Part I Tumor Microenvironment and Immunoenvironment</b>		
<b>2</b>	<b>The Metastatic Microenvironment . . . . .</b>	<b>15</b>
	Shelly Maman and Isaac P. Witz	
<b>3</b>	<b>Tumor Infiltration by Immune Cells: Pathologic Evaluation and a Clinical Significance . . . . .</b>	<b>39</b>
	Dmitriy W. Gutkin	
<b>4</b>	<b>Immunologic Interpretation of Cancer Biology: Impact on Clinical Outcome. . . . .</b>	<b>83</b>
	Maria Libera Ascierto, Francesco M. Marincola and Ena Wang	
 <b>Part II Developmental Characteristics of the Tumor Immunoenvironment</b>		
<b>5</b>	<b>Development of Antitumor Cellular Immunity. . . . .</b>	<b>107</b>
	M. J. P. Welters and S. H. van der Burg	
<b>6</b>	<b>The Versatile World of Inflammatory Chemokines in Cancer . . .</b>	<b>135</b>
	Tal Leibovich-Rivkin, Yaeli Lebel-Haziv, Shalom Lerrer, Polina Weitzenfeld and Adit Ben-Baruch	

<b>7</b>	<b>Inflammation, Tumor Progression, and Immune Suppression. . . .</b>	<b>177</b>
	Suzanne Ostrand-Rosenberg and Pratima Sinha	
<b>8</b>	<b>Pleiotropic and Differential Functions of IL-1<math>\alpha</math> and IL-1<math>\beta</math> Shape the Tumor Microenvironment and Affect the Outcome of Malignancies . . . . .</b>	<b>197</b>
	Ron N. Apte and Elena Voronov	
<b>9</b>	<b>Impact of Obesity and Aging on the Tumor Immuno-Environment . . . . .</b>	<b>223</b>
	Annie Mirsoian, Gail D. Sckisel, Anthony E. Zamora and William J. Murphy	

### **Part III Tumor Escape from Immune Recognition**

<b>10</b>	<b>MHC Class I Antigens and the Tumor Microenvironment. . . . .</b>	<b>253</b>
	Natalia Aptsiauri, Teresa Cabrera, Angel Garcia-Lora, Francisco Ruiz-Cabello and Federico Garrido	
<b>11</b>	<b>Tumor-Produced Immune Regulating Factors . . . . .</b>	<b>287</b>
	Mads Hald Andersen, Jürgen C. Becker and Per thor Straten	
<b>12</b>	<b>Roles of Signaling Pathways in Cancer Cells and Immune Cells in Generation of Immunosuppressive Tumor-Associated Microenvironments . . . . .</b>	<b>307</b>
	Yutaka Kawakami, Tomonori Yaguchi, Hidetoshi Sumimoto, Chie Kudo-Saito, Nobuo Tsukamoto, Tomoko Iwata-Kajihara, Shoko Nakamura, Hiroshi Nishio, Ryosuke Satomi, Asuka Kobayashi, Mayuri Tanaka, Jeong Hoon Park, Hajime Kamijuku, Takahiro Tsujikawa and Naoshi Kawamura	
<b>13</b>	<b>T Cell Multifunction in the Tumor Environment . . . . .</b>	<b>325</b>
	Eitan Yefenof	
<b>14</b>	<b>Signaling of Tumor-Induced Immunosuppression of Dendritic Cells . . . . .</b>	<b>339</b>
	Yong Lu, Jing Yang and Qing Yi	
<b>15</b>	<b>Tumor Microenvironment may Shape the Function and Phenotype of NK Cells Through the Induction of Split Anergy and Generation of Regulatory NK Cells . . . . .</b>	<b>361</b>
	Anahid Jewett and Han-Ching Tseng	

## **Part IV Immune Regulators in the Tumor Immunoenvironment**

<b>16 The Role of Myeloid Derived Suppressor Cells in Cancer . . . . .</b>	<b>385</b>
Jonathan M. Weiss	
<b>17 Macrophage Differentiation and Activation States in the Tumor Microenvironment. . . . .</b>	<b>405</b>
Jo A. Van Ginderachter	
<b>18 Dendritic Cells and Cancer: Development, Dysfunction and Therapeutic Targets. . . . .</b>	<b>431</b>
Stephanie K. Watkins and Arthur A. Hurwitz	
<b>19 The Role of Tumor Associated Neutrophils in Cancer . . . . .</b>	<b>457</b>
Zvi G. Fridlender	
<b>20 Mast Cell Modulation of the Tumor Microenvironment. . . . .</b>	<b>479</b>
Sharon A. Oldford and Jean S. Marshall	
<b>21 Regulatory T Cells in Patients with Cancer. . . . .</b>	<b>511</b>
Theresa L. Whiteside	
<b>22 Tumor-Evoked Regulatory B Cells as Important Mediators of Cancer Escape . . . . .</b>	<b>525</b>
Catalina Lee-Chang, Monica Bodogai and Arya Biragyn	

## **Part V Tumor Escape and Cancer Immunotherapy**

<b>23 Cancer Immunotherapy: Overview in Brief. . . . .</b>	<b>549</b>
Philipp Beckhove	
<b>24 Programming of MDSC: New Opportunities for Targeted Therapy. . . . .</b>	<b>567</b>
Peter Svider, Shu-Hsia Chen, Andrew G. Sikora and Wen-Chin Yang	
<b>25 Therapeutic Targeting Regulatory T Cells in Tumor . . . . .</b>	<b>585</b>
Wei Wang and Weiping Zou	
<b>26 ChemoImmunoModulation: Focus on Myeloid Regulatory Cells. . . . .</b>	<b>603</b>
Michael R. Shurin and Viktor Umansky	

<b>27</b>	<b>Combining Vaccines with Therapies that Render Tumor Cells more Susceptible to Immune Mediated Killing . . . . .</b>	<b>621</b>
	Nishith Singh, James Hodge, Ravi Madan and James L. Gulley	
<b>28</b>	<b>Prophylactic Cancer Vaccines . . . . .</b>	<b>643</b>
	Pamela L. Beatty and Olivera J. Finn	
 <b>Part VI Analyzing Immune Responses in Cancer</b>		
<b>29</b>	<b>Approaches to Immunologic Monitoring of Clinical Trials . . . . .</b>	<b>663</b>
	Lisa H. Butterfield, Lazar Vujanovic and Angela D. Pardee	
<b>30</b>	<b>Evaluation of the Tumor Immunoenvironment in Clinical Trials . . . . .</b>	<b>695</b>
	Anatoli Malyguine, Kimberly Dunham, Thomas J. Sayers and Michael R. Shurin	
<b>31</b>	<b>Analysis of Myeloid-Derived Suppressor Cells in Patients with Cancer . . . . .</b>	<b>707</b>
	Peiyuan Zhu, Yevgeniya V. Segal, Galina V. Shurin and Michael R. Shurin	
<b>32</b>	<b>When Results of T cell Immune Monitoring Match/Do Not Match Clinical Outcomes of Tumor Vaccine Trials: What More Could and Should We Measure? . . . . .</b>	<b>725</b>
	Paul V. Lehmann and Srividya Sundararaman	
	<b>Index . . . . .</b>	<b>741</b>

The Tumor Immunoenvironment

Shurin, M.R.; Umansky, V.; Malyguine, A. (Eds.)

2013, XVI, 745 p., Hardcover

ISBN: 978-94-007-6216-9