

Contents

1 Introduction: The Rationale for the Development of Targeted Drugs in Cancer Therapy Bernd Groner	1
2 Identifying Critical Signaling Molecules for the Treatment of Cancer Constadina Arvanitis, Pavan Bendapudi, Pavan Bachireddy, and Dean W. Felsher	5
3 Tyrosine Kinase Inhibitors and Cancer Therapy Srinivasan Madhusudan and Trivadi S. Ganesan	25
4 Targeting ERBB Receptors in Cancer Nancy E. Hynes	45
5 Inhibition of the IGF-I Receptor for Treatment of Cancer. Kinase Inhibitors and Monoclonal Antibodies as Alternative Approaches Yan Wang, Qun-sheng Ji, Mark Mulvihill, and Jonathan A. Pachter	59
6 Inhibition of the TGF-β Signaling Pathway in Tumor Cells Klaus Podar, Noopur Raje, and Kenneth C. Anderson	77
7 The Mammalian Target of Rapamycin Kinase and Tumor Growth Inhibition Anne Boulay and Heidi A. Lane	99

8 The Ras Signalling Pathway as a Target in Cancer Therapy	
Kathryn Graham and Michael F. Olson	125
9 The Mitogen-Activated Protein Kinase Pathway for Molecular-Targeted Cancer Treatment	
Judith S. Sebolt-Leopold, Roman Herrera, and Jeffrey F. Ohren	155
10 Clinical Relevance of Targeted Interference with Src-Mediated Signal Transduction Events	
Quan P. Ly and Timothy J. Yeatman	169