## Contents

1 Proteasome Inhibitors and Lessons Learned from Their Mechanisms of Action and Resistance in Human Cancer .......................................................... 1
   Sara M. Schmitt, Rahul R. Deshmukh, and Q. Ping Dou

2 Resistance to Proteasome Inhibitors in Multiple Myeloma ............... 47
   Francesca Cottini, Anna Guidetti, Claudia Paba Prada, Teru Hideshima, Michelle Maglio, Cindy Varga, Dharminder Chauhan, Jacob Laubach, Kenneth C. Anderson, and Paul G. Richardson

3 Overcoming Bortezomib Resistance: A Review of the Second-Generation Proteasome Inhibitor Carfilzomib in the Treatment of Multiple Myeloma ...................... 81
   Hans C. Lee and Robert Z. Orlowski

4 Proteasome Inhibitors in the Treatment of Multiple Myeloma and AL Amyloidosis ................................................................. 99
   Jeffrey A. Zonder

5 Profiling Bortezomib Resistance in Multiple Myeloma: Implications in Personalized Pharmacotherapy ................................. 117
   Amit Kumar Mitra, Holly Stessman, John Shaughnessy, and Brian Van Ness

6 Targeting Mantle Cell Lymphoma with a Strategy of Combined Proteasome and Histone Deacetylase Inhibition .......... 149
   Michael Batalo, Prithviraj Bose, Beata Holkova, and Steven Grant

7 Preclinical Studies on the Molecular Basis of Bortezomib Resistance and Modalities to Overcome Resistance in Hematological Malignancies ........................................... 181
   Jacqueline Cloos, Denise Niewerth, and Gerrit Jansen
8 Overcoming Inherent Resistance to Proteasome Inhibitors in Head and Neck Cancer: Challenges and New Approaches .............. 205
  Jason I. Kass, Jennifer R. Grandis, and Daniel E. Johnson

9 Targeting the Proteasome Pathway for the Treatment of Solid Tumors ....................................................................................... 233
  Nisar Ahmad, Elias Anaissie, Mohamed A.Y. Abdel Malek, and James J. Driscoll

10 Oxidative Stress and the Proteasome: Mechanisms and Therapeutic Relevance ............................................................................. 249
  Christa Manton and Joya Chandra

11 Proteotoxic Stress and Proteasome Inhibitor Efficacy and Resistance ......................................................................................... 275
  David McConkey

12 Proteasome Inhibitors Versus E3 Ligase Inhibitors for Cancer Therapy............................................................................................... 291
  Michael R. Mattern, Michael J. Eddins, Saket Agarwal, David E. Sterner, Matthew P. Kodrasov, K.G. Suresh Kumar, Jian Wu, and Benjamin Nicholson

13 Novel Ubiquitin E3 Ligases as Targets for Cancer Therapy: Focus on Breast Cancer-Associated Gene 2 (BCA2) ...................... 317
  Yutaka Amemiya, Stephanie Bacopulos, and Arun Seth

14 The 26S Proteasomal ATPases: Structure, Function, Regulation, and Potential for Cancer Therapies .................................................. 347
  Young-Chan Kim and David M. Smith

15 Deubiquitinating Enzymes as Novel Targets for Cancer Therapies ................................................................................................. 365
  Kwang-Hyun Baek, Key-Hwan Lim, and Jang-Joon Park

Index ................................................................................................................................................................................................................. 387
Resistance to Proteasome Inhibitors in Cancer
Molecular Mechanisms and Strategies to Overcome Resistance
Dou, Q.P. (Ed.)
2014, XI, 390 p. 55 illus., 51 illus. in color., Hardcover
ISBN: 978-3-319-06751-3