Preface

Multiple myeloma is the second most common hematologic malignancy currently effecting approximately 50,000 people in the United States. The disease is characterized by the occurrence of osteolytic bone lesions, renal disease, and immunodeficiency. Unfortunately, this devastating disease is still incurable. The development of multiple myeloma is a complex multistep process involving both early and late genetic changes affecting the tumor cell itself but also the bone marrow microenvironment. In the last decade, significant advances have been made in our understanding of the pathogenesis of multiple myeloma including discovery of abnormal gene expression profiles, cytogenetic rearrangements, aberrant intra- and intercellular signaling, and cell survival pathways. This enhanced insight into the molecular pathobiology of multiple myeloma has allowed the development of new targeted therapies which have already resulted in palpable improvement of MM treatment options.

This book is written by a group of international experts and targets translational and basic researchers to provide insight into the newest breakthroughs from basic pathogenesis to clinical aspects of multiple myeloma. Furthermore, we have attempted to provide a comprehensive overview of the genetic and molecular epidemiology of multiple myeloma in order to get more refined and conclusive understanding of this disease. Areas which are covered include notch signaling as a new target for multiple myeloma and the characterization of different myeloma entities by genomics and proteomics. This book further focuses on targeting protein translation as a new treatment for multiple myeloma, cell cycle control of plasma cell differentiation, the role of osteoclasts and osteoblasts in the pathogenesis of multiple myeloma, as well as a molecular interaction of multiple myeloma with a microenvironment.

We therefore hope that this book will provide the reader with a full understanding of where multiple myeloma research stands today and where it is heading.

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