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Nota di contenuto	Contents; Contributors; Part I: Genetics/Genome/Microenvironment; Chapter 1: Diversity of Chromosomal Characteristics Among Mammals: With Special Reference to Laboratory Mouse in Cancer Resear...; 1.1 Introduction; 1.2 Do Large Size Mammals Have Longer and High Number of Chromosomes?; 1.3 Do X and Y Chromosomes Exist Intact in All Mammals?; 1.4 Distribution of Constitutive Heterochromatin in Mammalian Species; 1.5 Locations of Ribosomal Cistrons in Mammalian Chromosomes; 1.6 Distribution of Telomeric DNA in Mammalian Species 1.7 Laboratory Mouse: Is the Animal Model or Muddle in Cancer Research 1.8 Human Cloning and Producing Mini-Organs in Culture; References; Chapter 2: Genome-Based Multi-targeting of Cancer: Hype or Hope?; 2.1 Introduction; 2.2 Cancer Is an Age-Old Disease; 2.3 Cancer Is a Disease of Old Age; 2.4 Cancer Is More Common in Western/Developed Countries; 2.5 Cancer Is a Multigenic Disease; 2.6 Target-Specific Anticancer Drugs; 2.7 Anticancer Potential of Targeted

Drugs; 2.8 Benefits of Most Targeted Drugs Is Marginal; 2.9 Most Targeted Drugs Are Highly Expensive
2.10 Adverse Effects Associated with Targeted Therapies
2.11 Multi-targeted Drugs Derived from Mother Nature Are Needed; Conclusions; References; Chapter 3: Chronic Lymphocytic Leukemia at the Genomic Level; 3.1 Rai and Binet Staging; 3.2 IgVH Gene Mutation and ZAP-70 Status; 3.2.1 IgVH Mutation Status; 3.2.2 ZAP-70 Status; 3.3 Cytogenetic Abnormalities; 3.3.1 13q14 Deletion; 3.3.2 17p Deletion; 3.3.3 11q Deletion; 3.3.4 Trisomy 12; 3.4 Genomics of CLL; 3.4.1 WGS and WES; 3.4.1.1 NOTCH1; 3.4.1.2 SF3B1; 3.4.1.3 BIRC3; 3.4.1.4 XPO1; 3.4.1.5 MYD88; 3.4.1.6 Clonal Evolution in CLL
3.5 Transcriptome Profiling
References; Chapter 4: Apoptosis Pathways in Chronic Lymphocytic Leukemia: Role of the Microenvironment and Therapeutic Strategies; 4.1 Introduction; 4.2 Intrinsic and Extrinsic Factors Contribute to Biology of CLL Cells; 4.2.1 Intrinsic Factors: Genetic Aberrations in CLL; 4.2.2 Intrinsic Factors: Apoptotic Imbalance in CLL Cells; 4.2.3 Extrinsic Factors: Contribution of the Microenvironment to CLL Cell Survival; 4.3 Role of Apoptosis Pathway Members in CLL Pathophysiology; 4.3.1 B-cell Receptor, TNF Receptor Super Family, DED, and CARD Family
4.3.2 NF-kappaB, Caspase, and IAP Families
4.3.3 Bcl-2 Family Antiapoptotic and Proapoptotic Proteins; 4.4 Microenvironment-Dependent Regulation of Apoptotic Pathway Proteins; 4.5 Therapeutic Strategies to Counter Survival Signals in CLL; 4.5.1 CLL Therapy: Standard of Care; 4.5.2 CLL Therapy: Targeting BCR Pathway; 4.5.3 CLL Therapy: Targeting Bcl-2 and IAPs; Conclusions; References; Chapter 5: Tumor-Associated Macrophages in Tumor Progression: From Bench to Bedside; 5.1 Introduction; 5.2 TAM Origin and Accumulation
5.3 Polarized Activation of Macrophages and Cancer-Related Functional Aspects

Sommario/riassunto

In this book, clinicians and basic scientists from USA, India, and other countries discuss the rationales and clinical experiences with targeted approaches to treat, prevent, or manage cancer. Cancer is a hyperproliferative disorder that is regulated by multiple genes and multiple cell signaling pathways. Genomics, proteomics, and metabolomics have revealed that dysregulation of dozens of genes and their products occur in any given cell type that ultimately leads to cancer. These discoveries are providing unprecedented opportunities to tackle cancer by multi-faceted approaches that target these underpinnings. This book emphasizes a multi-targeted approach to treating cancer, the focus of the 5th International Conference on Translational Cancer Research that was held in Vigyan Bhawan, Delhi (India) from Feb 6-9, 2014.
