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3 Allogeneic Cell-Based HSP Vaccines4 Recombinant and Nucleic Acid-Based HSP Vaccines; 5 Conclusions Based on Clinical Evidence; References; Activation of NK Cell Responses and Immunotherapy of Cancer; 1 Background and History of NK Cells; 2 NK Cell Activation; 3 NK Cells and Cancer; 4 Activated NK Cells as a Cancer Immunotherapy; 5 NK Cells and Other Immunotherapeutic Approaches; 6 Conclusion; References; Induction of Tumor Immunity by Targeted Inhibition of Nonsense-Mediated mRNA Decay; 1 Introduction; 2 Nonsense-Mediated mRNA Decay: A Primer; 2.1 Physiological Roles of NMD
2.2 Role of NMD in Cancer3 Tumor-Targeted NMD Inhibition to Express New Antigens in Disseminated Tumor Lesions; 3.1 The Concept and Rationale; 3.2 Preclinical Proof-of-Concept Studies in Murine Tumor Models; 4 Conclusions and Future Directions; 4.1 Cytotoxic Therapy or Immunotherapy?; 4.2 What If?; References; Employing T Cell Homeostasis as an Antitumor Strategy; 1 Introduction; 2 Homeostasis of T Lymphocytes; 3 Lymphopenia-Induced T Cell Proliferation; 4 Lymphopenia-Induced Pathologies; 5 Lymphopenia-Induced Antitumor Immune Responses; 6 Clinical Evidence/The Human Model
7 Adoptive Immunotherapy of Cancer8 Vaccine Augmentation; 9 Lymphopenia-Induced Changes in T reg Percentages; 10 The Dose Makes the Poison; 11 Conclusion; References; Adoptive Cell Therapy of Systemic Metastases Using erbB-2-Specific T Cells Redirected with a Chimeric Antibody-Based Receptor; 1 Introduction; 2 Results and Discussion; 2.1 Phenotypic and Functional Profile of the erbB-2-Specific CAR in Transgenic Mice; 2.2 Naive TgN29 Mice Reject Renca-erbB-2 Tumors; 2.3 Adoptive Transfer of Naive Lymphocytes from TgN29 Mice Extends the Survival of Mice with Systemic Lung Metastases
2.4 Redirected Allogeneic T Cells (Allo-T-Bodies) as Potential Universal Donors

Sommario/riassunto

This volume explores recent advances in understanding of fundamental immunology and insights into the dynamic interactions between tumors and the immune system, that provide new opportunities for therapeutic intervention in cancer. Chapter topics include evolving paradigms in the innate and adaptive response, newly appreciated immunosuppressive mechanisms, and novel preclinical strategies for manipulation of the immune system for therapeutic benefit in cancer. In addition, recent successes in the clinic, and emerging opportunities are covered. Future possibilities, such as the use of antibody engineering, fusion proteins, and the retargeting of immune cells through T-cell receptor engineering are discussed by leaders in the field, focusing on recent clinical experience, promising technologies, and challenges to clinical success.