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Therapy: Tailoring to Patient-Specific Tumors.

Sommario/riassunto

This contributed volume provides a comprehensive overview of CAR T-cell therapy, focusing on its application in solid tumors, an area where treatment success has been more elusive. While CAR T-cell therapy has revolutionized the treatment of hematologic malignancies, its potential in solid tumors remains a frontier of intense research and development. This volume bridges the knowledge gap by addressing both the successes and challenges faced by researchers and clinicians in this evolving field. The chapters cover topics such as the design of next-generation CAR T-cells, novel targets for solid tumors, and the integration of CAR T-cell therapy with other immunotherapeutic strategies. Readers will discover cutting-edge techniques like CRISPR-mediated gene editing, bispecific CARs, and synthetic biology. The book also explores critical questions about manufacturing challenges, regulatory hurdles, and clinical trial outcomes, providing a holistic view of CAR T-cell therapy. Contributions from leading experts in oncology, immunology, and molecular biology offer a multidisciplinary perspective, making this book a valuable resource for understanding the molecular and clinical dynamics of CAR T-cell therapy. This book is designed for a diverse audience, including researchers, clinicians, and industry professionals involved in cancer research, immunotherapy, and clinical applications. It is also a key reference for graduate and postgraduate students in fields like oncology, immunology, and biotechnology. By offering a comprehensive analysis of the technical, clinical, and regulatory aspects of CAR T-cell therapy, this book serves as a critical resource in the advancement of cancer treatment.