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Revolutionizing Cancer Treatment -- Discovery of T cell Epitopes for Cancer Immunotherapy -- Dendritic Cells in Cancer Immunotherapy: Current State and Future Prospects -- Tumor Microenvironment Role in Cancer Immunotherapy Response -- T-cell Responses During Cancer Immunotherapy Through the Use of CT, MRI, and PET -- Nanotechnology for Cancer Research (Diagnosis & Therapy): Recent Progress and Future Prospects -- Nanotechnology and Cancer Therapy Strategies -- Nanomedicine based Cancer Immunotherapy -- Applications of Nanocarrier Systems in Cancer Treatment -- Nanoformulations in Cancer Theranostics -- The Role of Noble Metal Nanomaterials in Cancer Therapy -- Synthetic and Natural Drug Nanodelivery Systems Used in Oncology Treatment -- Nanoparticles Loaded with Cytotoxic Agents: A Therapeutic Alternative against Cancer -- Advancements in Nanocarrier-Mediated Drug Delivery: Precision Strategies for Targeted Therapeutics and Improved Treatment Outcomes -- Vesicular Nanosystem as a Promising Platform for the Management of Cancer -- Nanoscale Metal-Organic Frameworks for Cancer-Targeted Therapy and Molecular Imaging -- Theranostic Properties of Iron Oxide Nanoparticles and Their Reprograming Properties on Tumor-associated Macrophages -- Composition of Proapoptotic Montmorillonite-Cytochrome C Nanoplates with High Anticancer Cytotoxicity: Monolayer Adsorption Approach -- Nanomaterials as Modulators of Non-apoptotic Regulated Cell Death Modes: Novel Options in Cancer Treatment.

Sommario/riassunto

The “Cancer Immunotherapy and Nanobiotechnology: An Interdisciplinary Approach” is the twenty fifth volume of the “Interdisciplinary Cancer Research” series, publishes comprehensive volume on cancer immunotherapy and nanobiotechnology. The volume starts with chapters on targeting mitochondria in cancer immunotherapy, immunotherapy in oncology, and cancer treatments through immunological pathways. Immune checkpoint inhibitors as well as engineered iPSC-based strategies are explained in other chapters after discussion on cancer stem cells. CAR NK, CAR T cells, and DC therapy are the subjects of the following chapters. Then tumor microenviroment in response to immunotherapy and T-cell responses during cancer immunotherapy through the use of imaging are explained. The second half of the volume is focused on application of nanobiotechnology in cancer, starting with general chapters on nanotechnology for cancer research, nanotechnology and cancer therapy strategies, nanomedicine based cancer immunotherapy, applications of nanocarrier systems in cancer treatment, and nanoformulations in cancer theranostics. Then the role of metal nanomaterials in cancer therapy, synthetic drug nanodelivery systems, nanoparticles loaded with cytotoxic agents, nanocarrier-mediated drug delivery, vesicular nanosystem, and nanoscale metal-organic frameworks for cancer-targeted therapy are explained. This is the main concept of Cancer Immunology Project (CIP), which is a part of Universal Scientific Education and Research Network (USERN). This interdisciplinary book will be of special value for those who wish to have an update on cancer immunotherapy and nanobiotechnology.