DESCRIPTION

Provides expert, state-of-the-art insight into the current progress of viral and non-viral gene therapy

Translational medicine has opened the gateway to the era of personalized or precision medicine. No longer a one-size-fits-all approach, the treatment of cancer is now based on an understanding of underlying biologic mechanisms and is increasingly being tailored to the molecular specificity of a tumor.

This book provides a comprehensive overview of the pertinent molecular discoveries in the cancer field and explains how these are being used for gene-based cancer therapies. Designed as a volume in the Translational Oncology book series, Cancer Gene Therapy by Viral and Non-viral Vectors deals with the practice of gene-therapy, with reference to vectors for gene expression and gene transfer, as well as viral therapy. It covers the history and current and future applications of gene transfer in cancer, and provides expert insight on the progress of viral and non-viral gene therapy with regard to delivery system, vector design, potential therapeutic genes, and principles and regulations for cancer gene therapy.

Presented in three parts, Cancer Gene Therapy by Viral and Non-viral Vectors covers:

Delivery Systems

- Translational Cancer Research: Gene Therapy by Viral and Non-viral Vectors
- Retroviruses for Cancer Therapy
DNA Plasmids for Non-viral Gene Therapy of Cancer

Cancer Therapy with RNAi delivered by Non-viral Membrane/Core Nanoparticles

**Targeted Expression**

- Cancer Gene Therapy by Tissue-specific and Cancer-targeting Promoters
- MicroRNAs as Drugs and Drug Targets in Cancer

**Principles of Clinical Trials in Gene Therapy**

- Regulatory issues for Manufacturers of Viral Vectors and Vector-transduced Cells for Phase I/II Trials
- US Regulations Governing Clinical Trials in Gene Therapy
- Remaining Obstacles to the Success of Cancer Gene Therapy

Focusing on speeding the process in clinical cancer care by bringing therapies as quickly as possible from bench to bedside, *Cancer Gene Therapy by Viral and Non-viral Vectors* is an absolutely vital book for physicians, clinicians, researchers, and students involved in this area of medicine.

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