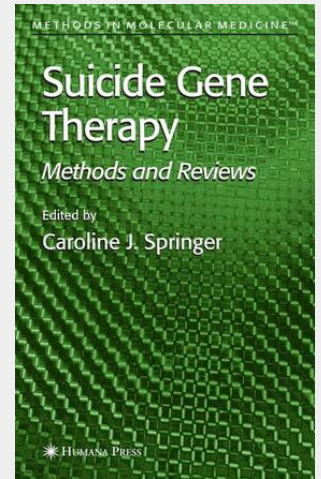


Suicide Gene Therapy

Methods and Reviews

Gene therapy has expanded rapidly over the last decade. The number of clinical trials reported by 2001 included 532 protocols and 3436 patients. Phase I trials predominate with 359 trials of 1774 patients versus Phase II (57 trials with 507 patients) and Phase III (3 trials of 251 patients). The disease overwhelmingly targeted by gene therapy is cancer: involving 331 trials with 2361 patients. Despite the somewhat disappointing results of clinical trials to date, gene therapy offers tremendous promise for the future of cancer therapy. The area of gene therapy is vast, and both malignant and nonmalignant cells can be targeted. Suicide Gene Therapy: Methods and Reviews covers gene therapy that targets malignant cells in a treatment that has become known as "suicide gene therapy." Basically, this approach uses the transduction of cancer cells with a gene for a foreign enzyme that, when expressed, is able to activate a nontoxic prodrug into a highly cytotoxic drug able to kill the cancer cell population. This is a major area in cancer gene therapy—in 2001 this technique was represented by 52 clinical protocols with a total of 567 patients. Additional trials used multiple gene therapy protocols that also involved suicide gene therapy (83 with 497 patients), indicating that the interest in this area is considerable. Suicide Gene Therapy: Methods and Reviews aims to cover comprehensively, both in theoretical and practical terms, the rapidly evolving area of suicide gene therapy for cancer.

Suicide gene therapy has become a major element in anticancer gene therapy and holds great promise for the future. In Suicide Gene Therapy: Methods and Reviews, prominent researchers and clinicians comprehensively detail the theory and practice of this exciting and elegant therapeutic approach. In their multidisciplinary treatment, the authors cover all the major aspects of suicide gene therapy, including the design and use of vectors in gene transduction, various enzyme and prodrug systems, the mechanistic analysis of the bystander effect, the design and synthesis of prodrugs, the immunological implications, and its clinical impact. They also describe and expound upon all the cutting-edge methods needed to explore, study, and advance understanding of the basic biology underlying gene therapy. Each fully tested method includes step-by-step instructions, a discussion of the principle behind the technique, equipment and reagent lists, tips on troubleshooting and avoiding pitfalls, and notes on the interpretation and use of results. Authoritative and up-to-date, Suicide Gene Therapy: Methods and Reviews not only summarizes our knowledge of suicide gene therapy today, but also provides the experimental means to advance its future development and therapeutic applications.



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