
BOOK REVIEW

Gene Delivery to Mammalian Cells

(Heiser, W. C. (ed.), Vol. 1. *Nonviral Gene Transfer Techniques*, in *Methods in Molecular Biology* (Walker, J., ed.), Vol. 245, Humana Press, 2004, 301 p., \$99.50.
Vol. 2. *Viral Gene Transfer Techniques*, in *Methods in Molecular Biology* (Walker, J., ed.), Vol. 246, Humana Press, 2004, 565 p., \$125)

The first volume consists of two parts including 24 chapters. The first part (10 chapters) considers methods of gene delivery by chemical methods. These methods employ calcium phosphate (CP), CP-DNA precipitates (which cells engulf by endocytosis), DEAE-dextran, cationic lipids, polymers (polylysine, spermine, histones), peptides, cationic liposomes, etc.

The second part (14 chapters) considers physical methods of gene delivery. These include DNA microinjection into a cell (under microscope control) using special glass capillaries, DNA delivery to cell cultures using bombarding particles, electroporation, hydrodynamic delivery, and use of ultrasound.

The second volume consists of seven parts including 35 chapters. Chapters 1-7 of the first part consider methods of adenoviral gene delivery. These methods were tested using a wide range of cells from different organs and tissues such as skeletal muscles, liver, lung epithelium, spinal cord and brain endothelium.

The second part deals with the use of adeno-associated viruses as genetic vectors. Chapters of this part describe

certain features of such vectors for gene delivery to different organs, tissues, and normal and transformed cells.

The third part of this book consists of five chapters, which summarize data on gene delivery to skeletal muscles, nervous system cells, and tumor glial cells using herpes simplex virus as the vector.

The fourth part contains only one chapter, which deals with the use of baculoviruses as genetic vectors for gene delivery to mammalian cells.

The sixth chapter of the fifth part describes gene delivery using lentiviruses.

The sixth part of this book contains information on the use of retroviruses for gene delivery.

The last (seventh) part deals with use of alpha-viruses as genetic vectors.

Each part of this book contains description of a method, list of materials required for its employment, sequential steps of the method, comments to each step, and bibliography.

Thus, this book is very useful for effective learning of the methods of gene delivery.

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