BOOK REVIEWS

Adeno-Associated Virus (AAV) Vectors in Gene Therapy
Current Topics in Microbiology and Immunology 218


Human gene therapy holds tremendous promise for the treatment of a wide range of genetic and somatic disorders. Single-treatment therapeutics as well as the reduction of side-effects are two of the major advantages of using this particular approach, and even if initial clinical trials have not yielded the universal panacea that had been promised by the popular press, these early trials have been useful in identifying some of the pitfalls to avoid, and there have been successes. There are few scientists who would doubt that gene therapy is set to become an important component of the medical practitioners toolbox, at least in the treatment of certain conditions. This fact is substantiated by the large investment in this particular scientific endeavour by both government agencies and the biotechnology industry.

The scientific interest in the field of gene therapy is attested to by the number of reviews, most of which have attempted to provide an extensive overview of the subject in general. The number of vector systems being investigated as potential delivery systems is continually increasing, and thus it has become increasingly difficult for such reviews to provide the depth and breadth of information required by researchers looking seriously to invest time and effort in this field. The book Adeno-associated virus (AAV) vectors in gene therapy has gone some of the way to rectifying this situation, and provides an extensive review of the current state of the art in relation to AAV vectors. The editors are themselves internationally recognised experts in the field of AAV, and have pooled contributions from a panel of researchers at the forefront of this rapidly advancing technology. The book comes at a time when there has been a large increase in the number of papers describing the use of AAV as a gene therapy vector, and should prove useful not only to those looking to obtain a background knowledge of AAV but also to those currently working with the virus.

The opening two chapters provide an excellent review of what is currently known of the workings of the AAV replicative cycle, particularly in relation to its intended use as a gene therapy vector. The chapters are extensively referenced, and the relevant data are expounded in detail. Subsequent chapters focus on issues directly relevant to the potential use of AAV as a viable vector for gene therapy. One issue applicable to all potential vectors is the issue of process scale-up, and the ease of manufacture of the vector in sufficient quantity for use in clinical trials. AAV vectors may well prove to be among the most difficult systems to adapt to large scale manufacture, and there are still a number of obstacles to overcome before this goal is realised. The two chapters by Trempe and Lebkowski et al. review some of the approaches used in attempts to overcome these difficulties.

The remainder of the book focuses on the potential use of AAV vectors in a wide range of clinical scenarios, therapeutic delivery to the haematopoietic system and erythroid cell transfer. In addition, the book includes a detailed chapter by Carter and Flotte on the only clinical trial yet to be approved using AAV as a vector, for delivery of the cystic fibrosis transmembrane regulator to epithelial cells of the airway. This particular chapter includes useful data on safety and toxicity of the vector, as well as the potential for mobilisation of the vector, topics which are likely to be of major concern in obtaining regulatory approval for the use of any vector system for therapeutic delivery.

In summary, the book provides a well-balanced overview of the issues relating to the use of AAV as a vector for gene therapy, including vector design, manufacture and clinical application, and should prove a useful asset to all those actively concerned with the development and scale-up of AAV vector systems.

A. BAILEY

 Toward Anti-Adhesion Therapy for Microbial Diseases
Advances in Experimental Medicine and Biology, volume 408


This book reports the proceedings of a conference held in Israel in early 1996 and commendably for authors, editors and publishers it has appeared the same year. The book is divided into six sections each devoted to particular aspects of the adhesion process and its inhibition.

The first section (six papers) deals with lectin–sugar interactions and their inhibitors, followed by a series of studies on invasion and inflammation (eight papers) as consequences of adhesion. The next section looks at the adhesion process itself and in particular, the involvement of components of the extracellular matrix as well as the eukaryotic cell skeleton (five papers). The fourth section deals with the adhesion of specific micro-organisms including viruses, bacteria and protozoa (five papers). Thereafter another section looks particularly at adhesion in the oral cavity and the development of agents capable of inhibiting the formation of dental plaque (three papers). Finally a special section deals with synthetic, host-derived compounds and dietary supplements that have potential as anti-adhesins (three papers). The editors have also included abstracts of the posters presented at the meeting. In this way the reader feels that nothing has been missed and that there is the impression of actually being present at the meeting. Even for the non-expert, each of the papers provides some introductory information before tackling the specific problems at a subcellular or molecular level. Several papers also provide conclusions or concluding remarks which allow the reader to emerge with some sort of ‘take-home message’, which should allow them to keep abreast with an ever-expanding field of research. On the basis of the ideas proposed in this volume some of the strategies may have a future impact on the therapy of microbiol infection.

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