
Preface

Since the discovery of the prophylactic effects of the cowpox virus toward variants of the variola virus in the late eighteenth century, scientists and clinicians have fought to balance the beneficial effects of viral vaccines against the potential for undesired and potentially pathogenic side effects. In the last half century or so scientists have harnessed a variety of pathogenic viruses, from a number of species, for use and study in the laboratory and the clinic. Our increased understanding of the pathology and the molecular anatomy of those viruses has enabled us to adapt them for use as recombinant expression systems for immunogens that can be used to protect hosts from infection by a wide variety of infectious agents.

This volume is intended for scientists and clinicians who are interested in learning more about and adapting methods employed in basic and biomedical research, which are directed toward understanding the development of recombinant viruses and their use as vaccine platforms. The methods and protocols contained herein involve many of the viruses currently being used for, or under development as, vaccine platforms. Throughout this work readers will find details of the use of recombinant vaccines which are employed to either produce immunogens in vitro or elicit antibody production in vivo. Within each of the parts of this work, readers will find several chapters that are grouped according to the Baltimore Classification of viruses. Taken together, the described methods should inform individuals with interests in the current methods used to generate and develop recombinant viral vaccines.

The contributors to this volume are current or nascent leaders in the field of recombinant virus vaccine development. Taken together they have provided a large number of effective protocols that can be employed or adapted as readers see fit. While an attempt has been made to be as comprehensive as possible, inevitably there are certain platforms that are not included in this collection. We sincerely hope that you find this work informative and useful in your own laboratories and that they serve to acquaint you with the current state of the art in the use of recombinant viral vaccines.

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