
Preface

Vaccinia Virus and Poxvirology: Methods and Protocols provides a single comprehensive source of protocols for work involving poxviruses. Poxvirology has long been important for basic studies in virology, immunology, and cell biology. However, in recent years, poxviruses have become an especially important topic because of the politics involving issues related to smallpox bioterrorism and pre-event vaccinia virus vaccination and the need to develop anti-poxvirus therapeutics and safer smallpox vaccines.

Because recombinant vaccinia viruses are used widely as protein expression vectors, there are multiple chapters covering various approaches for the construction, characterization, and use of such recombinant viruses in immunologic and cell–cell fusion assays. Other chapters focus on methods to study poxvirus gene transcription and DNA replication, and the study of the binding, entry, and movement of the virus in host cells. *Vaccinia Virus and Poxvirology: Methods and Protocols* also covers methods in poxvirus bioinformatics, as well as aspects of viral pathogenesis at both a protein and an animal model level. Finally, protocols involving the study of immune responses to poxviruses are addressed, which is a critical issue given their role in smallpox vaccination and their potential role as vaccine vectors directed against infectious agents and cancer.

Each chapter, written by a leader in the field, contains a short introduction that provides an overall perspective for the topic. The protocols are designed to be easy to follow and the Notes sections include both additional explanatory information and important insights into the protocols. Thus, *Vaccinia Virus and Poxvirology: Methods and Protocols* should be useful to investigators who are new to poxvirology and/or to using vaccinia virus as a research tool. In addition, given the diverse topics covered, those experienced in poxvirology should also find this book useful because it serves as an introduction to new areas of research and novel ways to use poxviruses as scientific tools.

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Vaccinia Virus and Poxvirology

Methods and Protocols

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