

METHODS IN MOLECULAR BIOLOGY

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Human Cytomegaloviruses

Methods and Protocols

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Preface

The book *Human Cytomegaloviruses* in the *Methods of Molecular Biology* Series is designed to be an inclusive document for all of the necessary techniques and approaches to understand and study the pathobiology of human cytomegalovirus. With the significant medical role that human cytomegalovirus plays in human disease (from acute disease following primary infection to chronic disease due to lifelong viral persistence), there is a need to better understand human cytomegalovirus biology and pathogenesis. The book is designed to be a complete reference manual of the modern approaches to the study of human cytomegalovirus. This reference manual should serve as a tool for basic scientists to clinical scientists with interests in the basic fundamental aspects of viral gene expression and replication to those with interests in the specific aspects of viral pathogenesis. The book begins with two chapters designed to serve as a reference for the history of human cytomegalovirus and its associated diseases. Multiple chapters in the book detail the key techniques to culture and grow the virus in model cell types, to the use of primary cells in the study of human cytomegalovirus infection, to the modern molecular techniques required to assess the biological consequences of viral infection. Because of the use of multiple animal models in the study of viral infection, chapters have also been included to understand the basis of and the use of these important systems in understanding viral disease. Finally, the book ends with chapters discussing the relevant development of targeted therapeutics and vaccines as a goal to eventually mitigate human cytomegalovirus disease.

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