Preface

Since their discovery in 1954, adenoviruses (Ads) have become premier and prolific models for studying virology, as well as molecular and cellular biology. Ads are benign to the researcher, easy to grow and manipulate, stable, versatile, and extremely interesting. In recent years, Ads have become ubiquitous in vector technology and in experimental gene therapy research.

The *Adenovirus Methods and Protocols* volumes are designed to help new researchers to conduct studies involving Ads and to help established researchers to branch into new areas. The chapters, which are written by prominent investigators, provide a brief, general introduction to a topic, followed by tried and true step-by-step methods pertinent to the subject. We thank returning contributors for their updated and new chapters and welcome new contributors who have expanded the content of this book.

The initial chapters of *Adenovirus Methods and Protocols, Second Edition, Volume 1: Adenoviruses, Ad Vectors, Quantitation, and Animal Models*, address several techniques for the construction of Ads for use as vectors and for basic research. Topics include deletion mutants, capsid modifications, insertions, and gene replacements in both human Ads and murine, bovine, and ovine Ads. There is detailed description of the quality-control testing of vectors. Two chapters address Ad vectors and apoptosis. Additional chapters describe methods for determination of virus titers, sensitive assays for the presence of viral DNA in samples, and quantitation of infection by detection of the expression of adenoviral proteins. Other new chapters address the development of new, permissive immunocompetent animal models (cotton rat and Syrian hamster) as Ads progress toward clinical applications.

We thank contributors for sharing their secrets, John Walker for his patience, and especially Dawn Schwartz, without whose expert assistance this work would not have been possible.

William S. M. Wold
Ann E. Tollefson