Cytotoxic T Cells in HIV and Other Retroviral Infections

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Drug Dosage
The authors and the publisher have exerted every effort to ensure that drug selection and dosage set forth in this text are in accord with current recommendations and practice at the time of publication. However, in view of ongoing research, changes in government regulations, and the constant flow of information relating to drug therapy and drug reactions, the reader is urged to check the package insert for each drug for any change in indications and dosage and for added warnings and precautions. This is particularly important when the recommended agent is a new and/or infrequently employed drug.
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Preface

This volume provides the first broad overview of our current understanding of the role of cytotoxic T lymphocytes against HIV and other retroviruses. With contributions from major laboratories throughout the world, this important immune response is described in virus-infected humans as well as in nonhuman primates infected with monkey AIDS viruses. This publication grew out of a workshop held at the Institute of Tropical Medicine, Hamburg, FRG, and was supported by the European Community Project 'ImmunoPathology and Immunology of HIV-Related Diseases' The workshop brought together investigators from a number of interrelated disciplines with a shared interest in understanding the role of cellular immunity in containing the AIDS virus infection. The diverse
scientific areas represented included the study of functional T lymphocyte heterogeneity, the biology of cytotoxic T lymphocyte-target cell interactions, animal models of disease, clinical immunology and immunopathology. Substantial recent progress in AIDS-related research in each of these areas made this a unique opportunity in time to focus these interests together on the cytotoxic T lymphocyte in AIDS.

This volume is divided into three sections: HIV-1 infections in humans, SIV and HIV-2 infections in experimental animals, and T lymphocyte subpopulations and cytokine expression in lymphoid organs. In the section on HIV-1 infections in man, the importance of functional and phenotypic T lymphocyte heterogeneity on the biology of AIDS virus replication is discussed. The HIV-1-specific cytotoxic T cell response is characterized both prospectively and quantitatively. The role which cytotoxic T lymphocytes might play in the clinical manifestations of HIV- and HTLV-1-induced disease is described. In the portion on studies in animal models for AIDS, murine experiments which elucidate the molecular interactions leading to cytotoxic T lymphocyte generation are described.

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Cytotoxic T lymphocyte responses to the AIDS viruses are characterized in nonhuman primates. A primate model is also employed to assess strategies for the induction of AIDS virus-specific cytotoxic T lymphocytes through vaccination. The final section of this volume summarizes recent advances in our understanding of histologic changes in lymphoid tissue of AIDS virus-infected individuals. The localization of cytotoxic cells is described. The roles of various cell adhesion and cytokines in these histologic alterations are also explored.

Cytotoxic T lymphocytes clearly play a central role in containing a variety of viral infections. Accumulating evidence suggest that they serve such a function in HIV infections. The studies described in this volume provide a foundation for understanding the role of these cells in AIDS.

The editors wish to thank the authors who contributed to this volume, and the European Community Commission Program on AIDS through the 'Concerted action on the pathophysiology and immunology of HIV-related diseases' for sponsoring the Third Hamburg Workshop and publication of its proceedings. We also gratefully acknowledge the role that Dr. Kurt A. Körber has played in promoting research in Europe through the Award for the Advancement of European Science which has generously helped in organizing this workshop.

P. Racz