The Human Immunodeficiency Virus: Biology, Immunology, and Therapy.

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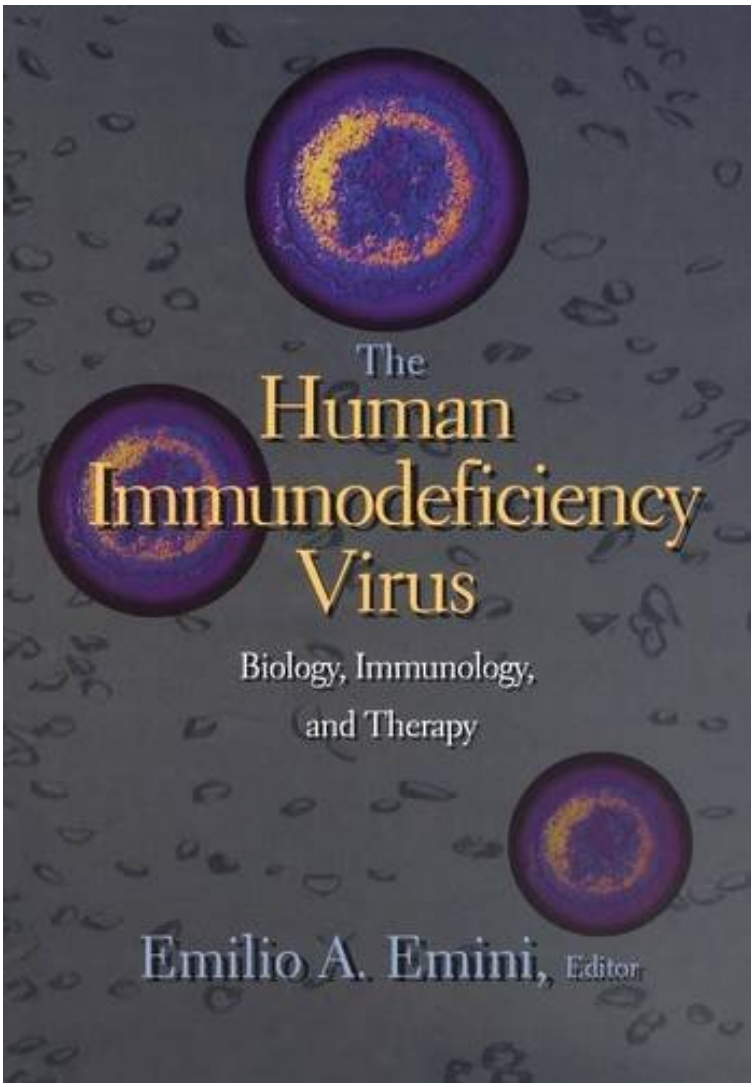

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From Brand: Princeton University Press : The Human Immunodeficiency Virus: Biology, Immunology, and Therapy. before purchasing it in order to gage whether or not it would be worth my time, and all praised The Human Immunodeficiency Virus: Biology, Immunology, and Therapy.:

The past few years have witnessed an explosive increase in our collective knowledge of the biology of the human

immunodeficiency virus (HIV). Researchers have acquired new understanding of the virus's biochemistry, molecular biology, pathogenesis, genetics, and immunobiology. Resulting therapeutic advances have significantly prolonged the lives of thousands. Yet, the need to develop better therapies is ever more acute and--given the virus's continued spread through the human population--the need for an effective vaccine is urgent. These goals can be accomplished only through the experienced synthesis of information from the many disciplines participating in HIV research and through the insights of new investigators. This volume is designed to lower the barriers imposed on investigators by the sheer volume of available information--information that often can be found only in far-flung and specialized journals. It provides, in a single resource, an in-depth overview of the diverse areas that constitute HIV research. The result is a broad introduction for students and researchers new to the field as well as an integrated overview for researchers specialized in particular areas of HIV investigation. The volume will also benefit those seeking technical understanding of the virus's biology, including physicians treating HIV-infected patients. Each chapter is a comprehensive presentation of one area of current AIDS research--including work on the virus life cycle, epidemiology, genetics, protease and reverse transcriptase inhibitors, receptor and co-receptor interactions, therapeutic targets, clinical treatment, immunobiology, and vaccines--written by a leading researcher in that area. The contributors are Jon P. Anderson, Jan Balzarini, Elana Cherry, Thomas J. Coates, Chris Collins, Jon H. Condra, Mark B. Feinberg, Richard B. Gaynor, Matthias Gtte, Daria J. Hazuda, Spyros Kalams, Nathaniel R. Landau, Gerald H. Learn, Norman L. Letvin, James I. Mullins, Willscott E. Naugler, David Nickle, Matthew Rain, Allen G. Rodrigo, Daniel Shriner, Shalom Spira, Mario Stevenson, Todd Summers, Catherine Ulich, Joseph P. Vacca, Mark A. Wainberg, Bruce D. Walker, and Yang Wang.

From The New England Journal of MedicineThis book addresses our knowledge about replication of the human immunodeficiency virus (HIV), with a particular emphasis on drugs and compounds that inhibit it. The last three chapters cover nonpharmaceutical prevention strategies, immunity to HIV infection, and the prospects for the development of a vaccine. Current treatment of HIV infection exemplifies the practical outcome of rational drug design. In the 19 years since virologists at the Institut Pasteur first isolated HIV, the detailed understanding of its molecular biology has led to successful drug regimens involving combinations of drugs that inhibit reverse transcription early in the infection cycle and inhibit protein cleavage late in HIV-particle formation. These drugs and their mechanisms of action are addressed in detail in this book, as are the prospects for other targets, including integrase, envelope-receptor interactions, accessory-gene functions, and the blocking of crucial host-cell functions. The reader can therefore gain a rounded view of the science that lies behind drug efficacy. Thus, the book is useful both to infectious-disease physicians and to research scientists. Is it realistic to produce an up-to-date textbook on HIV and AIDS? Emilio Emini has made a brave attempt, persuading several of the best investigators in the field to write authoritative chapters. Some of these chapters will stand the test of time, whereas others already seem dated at the time of publication, not least because few chapters cite references published after 1999. The one chapter that includes references from 2001 might be praiseworthy, but it is more likely that its delayed delivery was what rendered the other chapters obsolescent. The creation of timely textbooks in rapidly developing fields like HIV and AIDS or functional genomics will continue to pose a problem. Academic medical publishers should give more thought to electronic publications that, for a small fee, could be updated annually. Of course, such an undertaking would require an ongoing commitment from the authors, but if they teach their subject, providing annual updates should not be too onerous a duty. This book is not a general textbook on HIV and AIDS. There is relatively little on the pathogenesis of HIV other than immune deficiency -- for instance, on the wasting syndrome or AIDS dementia. Contrary to the blurb on the book's flyleaf, it does not cover epidemiology. The clinical management of opportunistic infections is not addressed at all. But coverage of these topics can be found in other textbooks on HIV medicine. Furthermore, the book is written mainly by North Americans for North Americans. There is scant discussion of delivering efficacious treatment in resource-poor settings, and there is only cursory mention of a crucially important aspect of the benefit of anti-HIV drugs -- namely, to prevent mother-to-child transmission. Another topic I would like to have seen covered is the problem of poor adherence by patients to today's drug regimens, including how poor adherence can fuel the emergence of drug resistance and how it can be overcome through the formulation of timed-release capsules of combinations of drugs. Indeed, although there is much detail on drug-resistance mutations, coverage of the dynamics of drug resistance in relation to viral fitness is lacking -- particularly, coverage of the transmission of drug-resistant HIV, a topic that has featured prominently in recent HIV-AIDS conferences. The editor states that each of the chapters in the book is designed to be as complete as possible and may be read independently of the others. This approach is successful, although there could be better cross-referencing, and the long chapter on the interface between the pathogenesis and treatment of HIV infection repeats much that has come before. It is difficult to judge just how much detail and attribution to provide in a textbook. The introductory chapter on the structure and biology of HIV type 1 (HIV-1) is masterly and succinct, but the pages of text are followed by as many pages of references, none of them more recent than 1998. Thirty references including good reviews would probably be more helpful than 322 outdated ones, since this chapter was not intended to be an account of the historical development of HIV and AIDS discovery. The second

chapter on the genetics of HIV-1 stands out as the only one not written with publication in a textbook in mind; it features nine authors from one laboratory and absurdly cites their research grants, as if it were the proceedings of a conference. The book contains black-and-white figures, which would have benefited greatly from redrawing: too many are occluded with various shades of gray in places where hatching would have been clearer. Simply converting color figures into monochrome figures was a poor solution. A little more editing for consistency would also have been helpful. For instance, the introductory chapter lumps together all HIV proteins encoded by genes other than gag, pol, and env as accessory, whereas the chapter on HIV genetics calls them auxiliary genes; only when we reach the chapters on novel therapeutic targets in HIV-1 are they subdivided into regulatory functions (Tat and Rev) and accessory functions (Nef, Vpu, Vpr, and Vif). Overall, this book provides a comprehensive account of anti-HIV drugs and potential drugs and targets, based on what was known as of the end of the 1990s. I shall keep it on my shelf and, no doubt, will occasionally lift it down for reference over the next two to three years. Robin A. Weiss, Ph.D. "Emini, one of the leading scientists in antiviral research, has edited an excellent treatise. . . . Each chapter is written by an outstanding investigator in the field, and as a result this book provides an accurate and comprehensive review of the literature up to 2000."--Choice"Is it realistic to produce an up-to-date textbook on HIV and AIDS? Emilio Emini has made a brave attempt, persuading several of the best investigators in the field to write authoritative chapters. . . . Overall, this book provides a comprehensive account of anti-HIV drugs and potential drugs and targets, based on what was known as of the end of the 1990s."--Robin A. Weiss, PH.D., New England Journal of Medicine"A useful review of immunology, and therapy of the Human Immunodeficiency Virus."--John P. Phair, Quarterly of Biology"A superb and comprehensive volume that summarizes all that is taking place in HIV research at the present time. . . . [T]he leading comprehensive treatise on HIV research."--Pascal James Imperato, Journal of Community HealthFrom the Inside Flap"This book is written by experts in the field and focuses on both HIV therapy and prevention. It is well illustrated, highly informative, and provides authoritative and completely up-to-date accounts of a complex subject in a manner that could not be achieved by one or a few authors. It will be an excellent resource for all people with the desire or need for a sophisticated account of HIV/AIDS research and its future challenges for some years to come."--Robert C. Gallo, Director and Professor, Institute of Human Virology