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Nota di contenuto	Part I.Immunochemistry -- 1 What is a B cell epitope -- 2 Molecular design versus empirical discovery in peptide-based vaccines. Coming to terms with fuzzy recognition sites and ill-defined structure–function relationships in immunology -- 3 Synthetic Peptide Vaccines and the Search for Neutralization B Cell Epitopes -- 4 Specificity, polyspecificity, and heterospecificity of antibodyantigen recognition -- Part II. Reductionism -- 5 Reductionism and the search for structure–function relationships in antibody molecules -- 6 Reductionism and complexity in molecular biology -- 7 Editorial: Biological complexity emerges from the ashes of genetic reductionism -- 8 The rational design of biological complexity: A deceptive metaphor., 9 Basic research in HIV vaccinology is hampered by reductionist thinking -- 10 Commentary: Basic Research in HIV Vaccinology Is Hampered by Reductionist Thinking -- 11 Nature and Consequences of Biological Reductionism for the Immunological Study of Infectious Diseases., Part III. Vaccinology -- 12 Limitations to the structurebased design of HIV1 vaccine immunogens -- 13 Two meanings of reverse vaccinology and

the empirical nature of vaccine science -- 14 Requirements for empirical immunogenicity trials, rather than structure-based design, for developing an effective HIV vaccine -- 15 Paradigm Changes and the Future of HIV Vaccine Research: A Summary of a Workshop Held in Baltimore on 20 November 2013 -- 16 Editorial: Paradigm changes are required in HIV vaccine research -- 17 An outdated notion of antibody specificity is one of the major detrimental assumptions of the structure-based reverse vaccinology paradigm, which prevented it from helping to develop an effective HIV-1 vaccine -- 18 More surprises in the development of an HIV vaccine -- 19 Why Does the Molecular Structure of Broadly Neutralizing Monoclonal Antibodies Isolated from Individuals Infected with HIV-1 not Inform the Rational Design of an HIV-1 Vaccine? -- 20 Old and New Concepts and Strategies in HIV Vaccinology: A Report from a Workshop held in Rome on 17 June 2016 -- 21 Structure-Based Reverse Vaccinology Failed in the Case of HIV Because it Disregarded Accepted Immunological Theory -- 22 Immune systems rather than antigenic epitopes elicit and produce protective antibodies against HIV -- 23 Development of a Preventive HIV Vaccine Requires Solving Inverse Problems Which Is Unattainable by Rational Vaccine Design -- 24 Viral species, viral genomes and HIV vaccine design: is the rational design of biological complexity a utopia?

Sommario/riassunto

This book gathers a series of pivotal papers on the development of an HIV/AIDS vaccine published in the last two decades. Accompanied by extensive comments putting the material into an up-to-date context, all three parts of the book offer a broad overview of the numerous unsuccessful attempts made in recent years to develop a preventive HIV vaccine. Providing a detailed review and analysis of studies published from 1998 to the present day, it examines the likely reasons for the failure to develop an HIV vaccine despite multi-million dollar investments.