New Trends and Developments in Vaccines

New Trends and Developments in Vaccines

Edited by

A. Voller

*Nuffield Laboratories of Comparative Medicine, Institute of Zoology,
Zoological Society of London; and*

H. Friedman

*Department of Microbiology, Albert Einstein Medical Center,
New York*

MTP

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Contents

<i>List of Contributors</i>	vii
<i>Preface</i>	ix
1. Introduction	
H. Friedman and A. Voller	1
2. New developments in vaccines	
W. Hennesen	7
3. Paediatric vaccines	
S. A. Plotkin	19
4. The whooping cough vaccine controversy	
G. Dick	29
5. Measles vaccines	
E. Norrby	55
6. Vaccines against influenza	
C. Hannoun	63
7. The New York Swine Influenza Immunization Program	
P. J. Imperato	71
8. Rabies vaccines	
J. Crick	87
9. Rubella vaccines	
C. Huygelen	103
10. Vaccination against poliomyelitis	
J. Salk and D. Salk	117
11. Hepatitis viruses and vaccines	
M. R. Hilleman, V. M. Villarejos, E. B. Buynak, O. L. Ittensohn, W. J. McAleer, Arlene A. McLean, W. J. Miller, P. J. Provost, A. A. Tytell and B. S. Wolanski	155
12. Developments with hepatitis B vaccines	
A. J. Zuckerman	171

CONTENTS

13. Herpesvirus vaccine development: studies of virus morphological components S. K. Vernon, W. C. Lawrence, Carole A. Long, G. H. Cohen and B. A. Rubin	179
14. Ribosomal vaccines: a review T. K. Eisenstein	211
15. Cholera vaccines H. Friedman	223
16. A vaccine for the prevention of pneumococcal infections G. Schiffman	237
17. Meningococcal vaccines W. A. Hankins	245
18. Development of meningococcal vaccines R. Triau	255
19. Immunization with streptococcus mutans against dental caries in Rhesus monkeys T. Lehner, S. J. Challacombe and Jill Caldwell	275
20. Vaccination against tropical parasitic diseases A. Voller	299
21. Notes on veterinary vaccines A. J. Beale	311
22. Standardization and control of allergen extracts W. D. Brighton	315
<i>Index</i>	321

List of Contributors

J. BEALE

Head, Biological Department,
Wellcome Research Laboratories,
Beckenham, Kent BR3 3BS

W. D. BRIGHTON

Head, Laboratory of Allergens,
National Institute for Biological Standards
and Control, Hampstead, London
NW3 6RB

E. B. BUYNACK

Division of Virus and Cell Biology
Research, Merck Institute for Therapeutic
Research, West Point, Pennsylvania
19486, USA

JILL CALDWELL

Department of Oral Immunology and
Microbiology, Guy's Hospital Medical
and Dental Schools, London SE1 9RT

S. J. CHALLACOMBE

Department of Oral Immunology and
Microbiology, Guy's Hospital Medical
and Dental Schools, London SE1 9RT

G. H. COHEN

Wyeth Laboratories Inc.,
Philadelphia, Pennsylvania 19101, USA

J. CRICK

Biochemistry Department,
Animal Virus Research Institute,
Woking, Surrey GU24 0NF

G. DICK

Regional Postgraduate Dean,
University of London Postgraduate
Medical Foundation, London NW1 5HD

T. K. EISENSTEIN

Department of Microbiology and
Immunology, Temple University School
of Health, Health Services Center,
Philadelphia, Pennsylvania 19140, USA

H. FRIEDMAN

Head, Department of Microbiology,
Albert Einstein Medical Center,
Philadelphia, Pennsylvania 19140, USA

W. A. HANKINS

Manager, Research and Development,
Connaught Laboratories Inc.,
Swiftwater, Pennsylvania 18370, USA

C. HANNOUN

Viral Ecology Unit,
Institut Pasteur,
F-75724 Paris, France

W. HENNESSEN

Behringwerke,
D-3550 Marburg/Lahn, West Germany

M. R. HILLEMANN

Director, Division of Virus and Cell
Biology Research, Merck Institute for
Therapeutic Research, West Point,
Pennsylvania 19486, USA

C. HUYGELEN

Director of Research,
Recherche et Industrie Therapeutique SA,
B-1330 Rixensart, Belgium

P. J. IMPERATO

First Deputy Commissioner,
New York City Department of Health,
New York, New York 10013, USA

VACCINES: TRENDS AND DEVELOPMENTS

O. L. ITTENSOHN

Division of Virus and Cell Biology
Research, Merck Institute for Therapeutic
Research, West Point, Pennsylvania
19486, USA

W. C. LAWRENCE

Wyeth Laboratories Inc.,
Philadelphia, Pennsylvania 19101, USA

T. LEHNER

Department of Oral Immunology and
Microbiology, Guy's Hospital Medical
and Dental Schools, London SE1 9RT

CAROLE A. LONG

Wyeth Laboratories Inc.,
Philadelphia, Pennsylvania 19101, USA

W. J. McALEER

Division of Virus and Cell Biology
Research, Merck Institute for Therapeutic
Research, West Point, Pennsylvania
19486, USA

A. A. McLEAN

Division of Virus and Cell Biology
Research, Merck Institute for Therapeutic
Research, West Point, Pennsylvania
19486, USA

W. J. MILLER

Division of Virus and Cell Biology
Research, Merck Institute for Therapeutic
Research, West Point, Pennsylvania
19486, USA

E. NORRBY

Professor and Head, Department of
Virology, Karolinska Institutet, S-105-21
Stockholm, Sweden

S. A. PLOTKIN

Director of Infectious Diseases, Virus
Laboratory, Joseph Stokes Jr. Research
Institute, Children's Hospital,
Philadelphia, Pennsylvania 19101, USA

P. J. PROVOST

Division of Virus and Cell Biology
Research, Merck Institute for Therapeutic
Research, West Point, Pennsylvania
19486, USA

B. A. RUBIN

Manager, Biological Products Department,
Wyeth Laboratories Inc.,
Philadelphia, Pennsylvania 19101, USA

D. SALK

Departments of Pathology and
Biochemistry, University of Washington,
Seattle, Washington, USA

J. SALK

The Salk Institute, PO Box 1809,
San Diego, California 92112, USA

G. SCHIFFMAN

Wyeth Laboratories Inc.,
Philadelphia, Pennsylvania 19101, USA

R. TRIAU

Medical Director, Institut Merieux,
F-19002 Lyon, France

A. A. TYTELL

Division of Virus and Cell Biology
Research, Merck Institute for Therapeutic
Research, West Point, Pennsylvania
19486, USA

S. K. VERNON

Wyeth Laboratories Inc.,
Philadelphia, Pennsylvania 19101, USA

V. M. VILLAREJOS

Louisiana State University International
Center for Medical Research and
Training, San Jose, Costa Rica

A. VOLLER

Nuffield Laboratories of Comparative
Medicine, Institute of Zoology,
The Zoological Society of London.
Regent's Park, London NW1 4RY

B. S. WOLANSKI

Division of Virus and Cell Biology
Research, Merck Institute for Therapeutic
Research, West Point, Pennsylvania
19486, USA

A. J. ZUCKERMAN

Professor and Head, Department of
Microbiology, and WHO Collaborating
Centre for Reference and Research on
Viral Hepatitis, London School of Hygiene
and Tropical Medicine, London WC1E
7HT

Preface

It was not too long ago that many physicians and biomedical scientists felt that the era of 'vaccines' for protecting mankind against infectious disease was coming to an end. During the 1940s and 50s the widespread use of newly developed antibiotics and antimicrobial chemotherapeutic agents suggested a new era in medicine, i.e. the control and eventual elimination of all infectious diseases, at least those caused by bacteria, by chemical means. The magic 'bullet' proposed by Paul Ehrlich in the early 1900s seemed to be the method of choice for controlling infection. However, it is now quite evident that those high expectations were unwarranted. Although many acute infections, especially those caused by pyogenic cocci, have been controlled by antibiotics, it is quite evident that infectious diseases, even those caused by bacteria, still are a major problem. Thus, the old 'standby' of preventative vaccination is making a strong comeback, not only for viral but also for bacterial infections. However, except for a relatively small number of viral diseases and those bacterial diseases due to toxin elaborated by microorganisms rather than invasion and replication of the microbe *per se*, preventative vaccination still has not fulfilled the expectations of their proponents.

There has been a recent resurgence of interest concerning all aspects of vaccines, not only their preparation and administration, but also the nature and mechanism of the host immune response to the constituent microorganisms and their products. A number of recent symposia, conferences, and scientific sessions at national and international meetings have been devoted to the subject of vaccines. This volume is an outgrowth of an international meeting held in Brussels, Belgium under the sponsorship of the Robert S. First Co. At the Conference a number of presentations were made in attempts to answer some of the vital questions concerning the value of various vaccines for bacterial, viral, parasitic and fungal infections, as well as newer developments in this area. Both fundamental and clinical aspects of vaccine development, use, and applications were discussed. A number of participants were then asked to contribute chapters to this volume. In addition other investigators actively participating in either development or use of newer vaccines for a variety of purposes were also asked to contribute to this volume. No attempt was made to cover completely every aspect of vaccines, either

VACCINES: TRENDS AND DEVELOPMENTS

historical or prospectives for the future. It is anticipated that further conferences as well as publications dealing with this rapidly re-emerging area of microbial immunology and preventative medicine will, within the next few years, permit the realization of many hopes by biomedical scientists that infectious diseases can be controlled by appropriate immunological 'engineering,' i.e. administration of effective and safe vaccines.

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Herman Friedman
Alister Voller
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