

Vaccine Design

Innovative Approaches and Novel Strategies

Edited by: **Rino Rappuoli and Fabio Bagnoli**

Novartis Vaccines and Diagnostics, Research, 53100 Siena, Italy

xii + 380 (plus colour plates) pp, February 2011

ISBN: 978-1-904455-74-5, \$360/£180

In this book, expert international authors critically review the current cutting-edge research in vaccine design and development. Particular emphasis is given to new approaches and technologies. The book has been divided into two parts. The first part reviews the technologies and approaches used to identify, generate and test new vaccines. Topics include: new strategies to identify protective antigens, generation of improved adjuvants, use of alternative immunization routes, improving vaccine safety, and finding and establishing the correlates of protection. The second part of the book focuses on the development of new vaccines to replace or complement currently available products or for diseases against which prophylactic strategies are missing. Examples include vaccines against nosocomial infections, streptococci, emerging viral diseases, *P. aeruginosa*, and bovine mastitis. Essential reading.



Table of Contents

- Introduction: *Fabio Bagnoli and Rino Rappuoli*
- Chapter 1: Overview of Vaccine Strategies. *Ruth Arnon*
- Chapter 2: Designing Vaccines in the Era of Genomics. *Fabio Bagnoli, Nathalie Norais, Ilaria Ferlenghi, Maria Scarselli, Claudio Donati, Silvana Savino, Michèle A. Barocchi and Rino Rappuoli*
- Chapter 3: New Analytical Approaches for Measuring Protective Capacity of Antibodies. *Moon H. Nahm and Carl E. Frasch*
- Chapter 4: New Frontiers in the Chemistry of Glycoconjugate Vaccines. *David R. Bundle*
- Chapter 5: Bacterial Protein Toxin Used in Vaccines. *Jerry M. Keith*
- Chapter 6: Adjuvants. *David A. G. Skibinski and Derek T. O'Hagan*
- Chapter 7: Mucosal Vaccines. *Rajesh Ravindran and Bali Pulendran*
- Chapter 8: Intralymphatic Vaccination. *Thomas M. Kündig, Pål Johansen, and Gabriela Senti*
- Chapter 9: The First Vaccine Obtained Through Reverse Vaccinology: The Serogroup B Meningococcus Vaccine. *Jeannette Adu-Bobie, Beatrice Aricò, Marzia M. Giuliani and Davide Serruto*
- Chapter 10: Vaccines for Neglected Diseases. *Allan Saul*
- Chapter 11: Vaccines to Combat *Pseudomonas aeruginosa* Infections in Immunocompromised Patients. *Jennifer M. Scarff and Joanna B. Goldberg*
- Chapter 12: Nosocomial infections: *Staphylococcus aureus*. *Alice G. Cheng, Olaf Schneewind and Dominique Missiakas*
- Chapter 13: Toward the Development of a Universal Vaccine Against Group B *Streptococcus*. *Roberta Cozzi, John L. Telford and Domenico Maione*
- Chapter 14: Vaccines against *Streptococcus pneumoniae*. *James C. Paton*
- Chapter 15: Veterinary Vaccines with a Focus on Bovine Mastitis. *John R. Middleton*
- Chapter 16: Vaccines Against Newly Emerging Viral Diseases: The Example of SARS. *Bart L. Haagmans*

Further details on all our books at www.caister.com

Order from:

- ISBS, Inc., 920 NE 58th Avenue, Suite 300, Portland, OR 97213-3786, **USA** Tel: 503 287-3093; Fax: 503 280-8832 <http://usa.caister.com>
- Book Systems Plus, 1st Floor, 8 Hill Street, Saffron Walden, Essex CB10 1JD, **UK** Tel: 01223 894870; Fax: 01223 894871 <http://uk.caister.com>

Quantity	Title	ISBN	Cost
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Name _____

Address _____

E-mail _____

Tel. _____ Fax. _____

Add carriage per copy:
UK £5; USA \$5.85; Rest of World please call _____

Visa Mastercard Bill me

Exp. date [][]/[][] Security number [][][][]

Cardholder _____

Signature _____ Date _____

Total _____

Two-Component Systems in Bacteria

Edited by: R Gross, D Beier
c. 410 pp, August 2012

ISBN: 978-1-908230-08-9, \$360/£180

Latest research on structure-function analysis, sensing mechanisms, atypical two-component systems, stress responses, developmental processes, virulence and symbiosis.

Foodborne & Waterborne Bacterial Pathogens

Epidemiology, Evolution and Molecular Biology

Edited by: SM Faruque
c. 330 pp, July 2012

ISBN: 978-1-908230-06-5, \$319/£159

Review topics such as pathogenic properties, population genetics, virulence genes, evolution, drug resistance, epidemiology, detection, identification and control strategies.

Yersinia

Systems Biology and Control

Edited by: E Carniel, BJ Hinnebusch
c. 240 pp, July 2012

ISBN: 978-1-908230-05-8, \$319/£159

Leading *Yersinia* researchers review the hot topics in the systems biology and control of these important bacteria.

Stress Response in Microbiology

Edited by: JM Requena
c. 500 pp, June 2012

ISBN: 978-1-908230-04-1, \$360/£180

Expert authors from around the world summarise the current knowledge on microbial stress response and comprehensively review the recent findings that have greatly advanced the understanding of stress response systems.

Bacterial Regulatory Networks

Edited by: AAM Filloux
c. 400 pp, June 2012

ISBN: 978-1-908230-03-4, \$360/£180

Authoritative, up-to-date reviews of the current research and theories on regulatory networks in bacteria. Critical reviews written by the leading research scientists in the field.

Systems Microbiology

Current Topics and Applications

Edited by: BD Robertson, BW Wren
c. 200 pp, June 2012

ISBN: 978-1-908230-02-7, \$319/£159

Cutting-edge reviews by world-leading experts on the systems biology of microorganisms. Includes theoretical approaches, mathematical modelling, case studies on microbial species and the systems analysis of microbial phenomena.

Quantitative Real-time PCR in Applied Microbiology

Edited by: M Filion

c. 280 pp, May 2012

ISBN: 978-1-908230-01-0, \$319/£159

Aimed specifically at microbiologists, this volume describes and explains the most important aspects of current real-time quantitative PCR (qPCR) strategies, instrumentation and software.

Bacterial Spores

Current Research and Applications

Edited by: E Abel-Santos

c. 300 pp, April 2012

ISBN: 978-1-908230-00-3, \$319/£159

Comprehensive, up-to-date reviews on the current state of our knowledge of bacterial endospores. Essential text for everyone involved in spore research, the expression of recombinant proteins and pathogen detection.

Small DNA Tumour Viruses

Edited by: K Gaston

x + 324 pp, March 2012

ISBN: 978-1-904455-99-8, \$319/£159

Leading scientists from around the world review current hot-topics on small DNA tumour virus research providing a fascinating overview of their molecular biology and interactions with the host.

Extremophiles

Microbiology and Biotechnology

Edited by: RP Anitori

xiv + 300 (colour figures) pp, January 2012

ISBN: 978-1-904455-98-1, \$319/£159

Current and topical areas of extremophile research. The latest insights into the mechanisms these fascinating organisms use to survive and the most recent and novel biotechnological uses of extremophiles.

Bacillus

Cellular and Molecular Biology (2e)

Edited by: P Graumann

xii + 398 pp, February 2012

ISBN: 978-1-904455-97-4, \$360/£180

A valuable reference work providing a comprehensive and up-to-date analysis. Critical reviews on the most recent and topical research.

Microbial Biofilms

Current Research and Applications

Edited by: G Lear, GD Lewis

x + 228 pp, February 2012

ISBN: 978-1-904455-96-7, \$319/£159

An up-to-date review of the latest scientific research on microbial communities and a discussion of future trends and growth areas in biofilm-related research.

Bacterial Glycomics

Current Research, Technology and Applications

Edited by: CW Reid, SM Twine, AN Reid
x + 270 pp, February 2012

ISBN: 978-1-904455-95-0, \$319/£159

Up-to-date overview of our current understanding of bacterial glycomes, the main analytical methods and recent and novel applications.

Non-coding RNAs and Epigenetic Regulation of Gene Expression

Drivers of Natural Selection

Edited by: KV Morris

x + 216 pp, February 2012

ISBN: 978-1-904455-94-3, \$319/£159

An important and up-to-date overview of the modulation of gene transcription by non-coding RNAs. An essential reference book and a major information resource for those working in the area.

Brucella

Molecular Microbiology and

Genomics

Edited by: I López-Goñi, D O'Callaghan

x + 262 pp, February 2012

ISBN: 978-1-904455-93-6, \$319/£159

Highly acclaimed *Brucella* scientists comprehensively review the most important advances in the field. Topics include: genetic diversity, proteomic analysis, transcriptomic analysis, and much more.

Molecular Virology and Control of Flaviviruses

Edited by: P-Y Shi

x + 358 pp, January 2012

ISBN: 978-1-904455-92-9, \$360/£180

An up-to-date and cutting-edge anthology from the leading experts in the flavivirus field. Essential reading for flavivirus researchers at the graduate level and beyond.

"a valuable resource" (Doodys)

Bacterial Pathogenesis

Molecular and Cellular Mechanisms

Edited by: C Locht, M Simonet

x + 370 pp, January 2012

ISBN: 978-1-904455-91-2, \$360/£180

Distinguished scientists comprehensively describe the most relevant and up-to-date information on pathogenic features across the bacterial world.

"useful to those in many areas of research" (Doodys)