

CONTENTS

INTRODUCTORY SECTION

The Biology and Physiopharmacology of Bacterial Lipopolysaccharide Endotoxins and Their Role in Immunoregulation - An Introductory Preview	3
Andor Szentivanyi and Herman Friedman	
Retrospective and Prospective View of Endotoxin Research	13
L. Joe Berry	

I. CHEMICAL AND MOLECULAR CHARACTERISTICS OF ENDOTOXINS

Beneficially Active Structural Entities in Endotoxin Preparations . .	37
Alois Nowotny	
The Antigenic Structure of the Lipooligosaccharides of Neisseria Gonorrhoeae	57
Michael A. Apicella	
Lipid A: Relationships of Chemical Structure and Biological Activity	65
Otto Lüderitz, Chris Galanos, Ernst Th. Rietschel, and Otto Westphal	
Production of Human Monoclonal Antibodies Recognizing Cross-Reactive Determinants on Lipopolysaccharides	75
James W. Larrick, Mark Jahnsen, George Senyk, Stefan Weiss, and Karen Watson	
Physical Properties of Short-Chain and Long-Chain Fractions of Lipopolysaccharide	83
Arnold A. Peterson and Estelle J. McGroarty	
Analysis and Characterization of Bacterial Endotoxins (Lipopolysaccharides) by SDS-Polyacrylamide Gel Electrophoresis Followed by Silver Stain	89
Chao-Ming Tsai and Carl E. Frasch	

II. PHYSIOLOGICAL AND PHARMACOLOGICAL EFFECTS OF ENDOTOXINS

Metabolic Effects of Endotoxin	99
John J. Spitzer, Gregory J. Bagby, and Charles H. Lang	

Glucose Dyshomeostasis in Endotoxiosis: Direct Versus Monokine-Mediated Mechanisms of Endotoxin Action	111
Michael R. Yelich, Linda Witek-Janusek, and James P. Filkins	
In Vivo Effects on Cellular Metabolism and Calcium Dynamics by Continuous Infusion of Endotoxin	133
Judy A. Spitzer	
Endotoxin (LPS) Toxicity to Hepatocytes (H) in Vitro - Modulation by Macrophages (M)	151
Patricia S. Latham and Susan B. Sepelak	
Effects of Endotoxin on Mixed Function Oxidase Activity	159
Joseph F. Williams and Andor Szentivanyi	
Myocardial Performance and Adrenergic Modulation of Cyclic AMP Following Endotoxin Administration	171
Raymond E. Shepherd, Charles H. Lang, Brent A. Brumfield, Norman W. Robie, Karen R. DuSapin, and Kathleen H. McDonough	
Cyclic Nucleotides in the Immunopharmacology of Lipopolysaccharide Endotoxins	187
John W. Hadden, Ann Galy, Elba M. Hadden, J. L. Touraine, and Ronald G. Coffey	
III. IMMUNOGENICITY AND NON-SPECIFIC EFFECTS OF ENDOTOXIN	
Nonspecific Effects of LPS on Bacterial Infections	201
L. Chedid, M. Parant, F. Parant, and G. Riveau	
Bacteroides Species Increases Lipopolysaccharide Susceptibility of Experimental Animals	215
A. C. Rodloff, P. Gadke, F. Lux, and H. Hahn	
The Role of Post-Endotoxin Serum Components from BCG Infected Mice in the Protection of Compromised Hosts	221
Renate Urbaschek, Daniela N. Männel, Stephan E. Mergenhagen, and Bernhard Urbaschek	
Protection Against Lethal Haemophilus Pleuropneumoniae Infection in Swine by Antibodies to LPS Core Antigens	233
B. W. Fenwick, J. S. Cullor, and H. J. Olander	
Salmonella Antigens as Protective Immunogens in Salmonella Infection	239
Toby K. Eisenstein, Loran M. Killar, Barnet M. Sultzner, and Marshall Phillips	
Protective Function of Neutrophils During Experimental Endotoxic Shock	257
B. W. Fenwick, J. S. Cullor, and A. Kelly	
Active Immunization with <i>E. coli</i> J5 and its Protective Effects from Endotoxic Shock in Calves	265
J. S. Cullor, B. Fenwick, B. P. Smith, K. Pelzer, A. Kelly, and B. I. Osburn	
Clinical Recognition and Treatment of Endotoxinemia	269
Joseph G. Sinkovics	

Transient Suppression of Yeast Phagocytosis Induced by Legionella
Pneumophila in Cultures of Murine Resident
Peritoneal Macrophages 281
Jeanne Becker, Robert J. Grasso, and Herman Friedman

The Effect of Endotoxin on Migration Inhibitory Factor
and Interferon 291
Samuel B. Salvin and Pamela B. Renda

IV. EFFECTS OF ENDOTOXINS ON CELLS OF THE IMMUNE SYSTEM

Regulation of the Cell Cycle of Murine B Lymphocytes
by Lipopolysaccharides 301
Fritz Melchers

Synergistic Effect of Endotoxin with Concanavalin A on DNA Synthesis
in Lymphocytes and the Role of Interleukins 1 and 2 305
Masayasu Nakano and Toshimasa Nitta

Biochemical, Immunological and Functional Analysis of Lymphocytes
from the LPS Non-Responder C3H/HeJ Mouse 315
D. C. Morrison, H-W. Wollenweber, S. W. Vukajlovich,
and S. A. Goodman

Effects of Endogenous Gut LPS on Cells of the Secretory
Immune System 329
Suzanne M. Michalek, Jerry R. McGhee, Dawn E. Colwell,
Shane I. Williamson, Thomas A. Brown, David M. Spalding,
William J. Koopman, and Jiri Mestecky

Molecular Mechanisms in Lymphokine-Induced Macrophage Activation -
Enhanced Production of Oxygen Radicals 339
Edgar Pick

Induction of Gamma Interferon by Endotoxin in "Aged" Murine
Splenocyte Cultures 353
D. K. Blanchard, T. W. Klein, H. Friedman, and W. E. Stewart II

Characterization and Localization of Lipopolysaccharides Following
the Ingestion of E. coli by Murine Macrophages In Vitro 359
Robert L. Duncan, Jr., Vernon Tesh, and David C. Morrison

The Release of Immunopotentiating Mediators from Macrophages
Activated by Endotoxins 369
R. Christopher Butler, Jeri M. Frier, Mrunal S. Chapekar,
Herman Friedman, and Alois Nowotny

Changes in Macrophage Progenitor Cell Composition in the Bone Marrow
of "Early Phase" Endotoxin-Tolerized Mice 381
Stefanie N. Vogel and Gary S. Madonna

Production of Colony-Stimulating Factor (CSF) by Bone Marrow Cells
Stimulated with Lipopolysaccharide (LPS) and Phorbol Esters . . . 391
Dov H. Pluznik and Stephan E. Mergenhagen

V. MODULATION OF THE IMMUNE RESPONSE BY ENDOTOXINS

Modulation of Humoral and Cell-Mediated Immune Responses by a Structurally Established Nontoxic Lipid A	407
Edgar Ribí, John L. Cantrell, Kuni Takayama, Hans O. Ribí, Kent R. Myers, and Nilofer Qureshi	
Endotoxin Membrane Protein Complexes as Immunomodulators	421
Kathryn Nixdorff and Sigrid Schell	
Endotoxin Associated Proteins and Their Polyclonal and Adjuvant Activities	435
Barnet M. Sultzer, John P. Craig, and Raymond Castagna	
Lipopolysaccharide-Induced Recurrence of Arthritis Initiated by Peptidoglycan-Polysaccharide	449
Stephen A. Stimpson, Ronald E. Esser, William J. Cromartie, and John H. Schwab	
Antibiotics, Immunity, and Immunoenhancement	455
G. Pulverer, W. Roszkowski, H. L. Ko, K. Roszkowski, and J. Jeljaszewicz	
The Effect of Selected Antibiotics on the Endogenous Intestinal Microflora and its Consequences for Experimental Tumor Growth in BALB/c Mice	459
K. Roszkowski, H. L. Ko, D. van der Waaij, W. Roszkowski, J. Jeljaszewicz, and G. Pulverer	
Restoration of Antibody Responsiveness by Endotoxin in Retrovirus-Immunodepressed Mice: Role of Macrophages	465
Mauro Bendinelli, Donatella Matteucci, Anna Maria Giangregorio, and Pier Giulio Conaldi	
Endotoxin and Polysaccharide Derivative Induced Enhanced Antibody Formation in Leukemia Virus Infected Mice	479
Herman Friedman and Andor Szentivanyi	
Clinical Relevance of Endotoxemia	491
James P. Nolan	
Contributors	503
Index	511