ADVANCES IN MUCOSAL IMMUNOLOGY
Part A
ADVANCES IN EXPERIMENTAL MEDICINE AND BIOLOGY

Editorial Board
NATHAN BACK, State University of New York at Buffalo
IRUN R COHEN, The Weizmann Institute of Science
DAVID KRITCHEVSKY, Wistar Institute
ABEL LAJTHA, N S Kline Institute for Psychiatric Research
RODOLFO PAOLETTI, University of Milan

Recent Volumes in this Series

Volume 370
PURINE AND PYRIMIDINE METABOLISM IN MAN VIII
Edited by Amrik Sahota and Milton W Taylor

Volume 371A
ADVANCES IN MUCOSAL IMMUNOLOGY, Part A
Edited by Jiří Mestecky, Michael W. Russell, Susan Jackson, Suzanne M Michalek, Helena Tlaskalova-Hogenova, and Jaroslav Sterzl

Volume 371B
ADVANCES IN MUCOSAL IMMUNOLOGY, Part B
Edited by Jiří Mestecky, Michael W. Russell, Susan Jackson, Suzanne M Michalek, Helena Tlaskalova-Hogenova, and Jaroslav Sterzl

Volume 372
ENZYMOL OGY AND MOLECULAR BIOLOGY OF CARBONYL METABOLISM 5
Edited by Henry Weiner, Roger S Holmes, and Bendicht Wermuth

Volume 373
THE BRAIN IMMUNE AXIS AND SUBSTANCE ABUSE
Edited by Burt M Sharp, Toby K Eisenstein, John J Madden, and Herman Friedman

Volume 374
CELL ACTIVATION AND APOPTOSIS IN HIV INFECTION Implications for Pathogenesis and Therapy
Edited by Jean-Marie Andreu and Wei Lu

Volume 375
DIET AND CANCER Molecular Mechanisms of Interactions
Edited under the auspices of the American Institute for Cancer Research

Volume 376
GLYCOIMMUNOLOGY
Edited by A Alavi and John S Axford

Volume 377
TISSUE RENIN–ANGIOTENSIN SYSTEMS Current Concepts of Local Regulators in Reproductive and Endocrine Organs
Edited by Amal K Mukhopadhyay and Mohan K Raizada

Volume 378
DENDRITIC CELLS IN FUNDAMENTAL AND CLINICAL IMMUNOLOGY, Volume 2
Edited by Jacques Banchereau and Daniel Schmitt

A Continuation Order Plan is available for this series A continuation order will bring delivery of each new volume immediately upon publication Volumes are billed only upon actual shipment For further information please contact the publisher
ADVANCES IN MUCOSAL IMMUNOLOGY

Part A

Edited by

Jiri Mestecky, Michael W. Russell, Susan Jackson, and Suzanne M. Michalek
University of Alabama at Birmingham
Birmingham, Alabama

and

Helena Tlaskalová-Hogenová and Jaroslav Šterzl
Academy of Sciences of the Czech Republic
Prague, Czech Republic

SPRINGER SCIENCE+BUSINESS MEDIA, LLC
Proceedings of the 7th International Congress of Mucosal Immunology, held August 16–21, 1992, in Prague, Czechoslovakia


10 9 8 7 6 5 4 3 2 1

All rights reserved

No part of this book may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, microfilming, recording, or otherwise, without written permission from the Publisher
PREFACE

The Seventh International Congress of Mucosal Immunology held in Prague, the beautiful old capital of The Czech Republic, 16-20 August 1992, was the first to be sponsored by the Society for Mucosal Immunology, and was the largest since their inception 20 years earlier in Birmingham, Alabama. It was attended by 624 participants who gave 538 presentations, more than 10 times the numbers of the first meeting; these proceedings contain 354 papers that were submitted for publication. The political events in Europe that made it possible to hold this Congress in Prague also allowed for the first time the participation of large numbers of scientists from Eastern Europe, as well as from Asia, and the organizers were truly gratified by this happy circumstance. It is now clear not only that mucosal immunity encompasses the huge area of mucosal surfaces and most physiological organ systems, but also that mucosal immunology extends over the whole global surface and all continents! The sheer size of the Congress and number of manuscripts unfortunately entailed some unexpected problems in editing and assembling the proceedings, partly due to the diversity of linguistic styles not represented at earlier meetings, and we apologize to the authors who have patiently awaited the publication of their contributions.

The past few years have witnessed a growing impact of mucosal immunology on clinical medicine and vaccine development, in part because of the realization that HIV infection, like most other infectious diseases, is predominantly acquired through mucosal surfaces. This is reflected in the number of papers in these volumes and elsewhere that deal with immunity to viral, bacterial, fungal, and parasitic infections, the molecular interactions between these pathogens and the immune system across mucosal epithelia, as well as ingenious strategies to enhance the development of protective immunity at these surfaces, and the regulatory mechanisms involved. These proceedings illustrate this impact.

We wish to record our gratitude to many individuals and groups who contributed to the success of the Congress and preparation of this publication. We thank our administrative and secretarial assistants, especially Ms. Maria Bethune, who has diligently borne the brunt of this effort with remarkable composure. The Congress was supported financially by the following:

ADICO Ltd., Prague, Czechoslovakia
Becton Dickinson, Heidelberg, Germany
Behringwerke Ag. Marburg, Germany
Cheminst, Prague, Czechoslovakia
Chugai Pharmaceutical Co., Ltd., Japan
Daichi Sotyaiku Co., Ltd., Japan
Falk Foundation, Germany
Immuno, Vienna, Austria
Immunotech S.A., Marseille, France
Kabi Pharmacia, Prague, Czechoslovakia
Marion Merrill Dow, U.S.A.
Med Shiratori Co. Ltd., Japan
Medical System Management, Kiel, Germany

Mucos Pharma, Prague, Czechoslovakia
Nestlé, Vevey, Switzerland
Nippon Boehringer Ingelheim Co., Ltd., Japan
Nissan Prince Osaka Motor Sales Co. Ltd., Japan
Ono Pharmaceutical Co. Ltd., Japan
Procter and Gamble, Cincinnati, U.S.A.
Schöller Pharma, Prague, Czechoslovakia
Secretech, Inc., Birmingham, U.S.A.
Thiemann Therapeutics, Germany
University of Alabama at Birmingham, U.S.A.
University of Texas, Galveston, U.S.A.
Virus Research Institute, Cambridge, U.S.A.
Yamanouchi Pharmaceutical Co. Ltd., Japan

November 1994

The Editors
CONTENTS

PART A

B AND T CELLS OF THE MUCOSAL IMMUNE SYSTEM:
TRAFFICKING AND CYTOKINE REGULATION

INDUCTION AND RECALL OF THE SECONDARY IMMUNE RESPONSE
ENTIRELY IN TISSUE CULTURE.......................................................... 1

J. Sterzl, J. Milérova, L. Mackova, and J. Travníček

IN VIVO SWITCHING: IDENTIFICATION OF GERMLINE TRANSCRIPTS
FOR HUMAN IgA.............................................................................. 9

C.I.E. Smith, B. Baskin, E. Pattersson, L. Hammarstrom, and K.B. Islam

ANALYSIS OF THE SECOND MESSENGER SYSTEMS INVOLVED
IN THE SYNERGISTIC EFFECT OF CHOLERA TOXIN AND INTER-
LEUKIN-4 ON B CELL ISOTYPE-SWITCHING................................. 15

N. Lycke

TRANSFORMING GROWTH FACTOR BETA (TGFß) DIRECTS IgA1
AND IgA2 SWITCHING IN HUMAN NAIVE B CELLS....................... 21

F. Briere, T. Defrance, B. Vanbervliet, J.-M. Bridon, I. Durand,
F. Roussel, and J. Banchereau

LYMPHOKINE mRNA EXPRESSION IN THE HUMAN INTESTINAL
MUCOSA AND PBL DETERMINED BY QUANTITATIVE RT/PCR.......... 27

L. Braun-Elwert, G.E. Mullin, and S.P. James

REGULATION OF T CELL REACTIVITIES BY INTESTINAL
MUCOSA.......................................................................................... 31

L. Qiao, G. Schürmann, S.C. Meuer, R. Wallich, A. Schirren,
and F. Autschbach

VECTOR-ENCODED INTERLEUKIN-5 AND INTERLEUKIN-6
ENHANCE SPECIFIC MUCOSAL IMMUNOGLOBULIN A
REACTIVITY IN VIVO................................................................. 35

A.J. Ramsay
PERSISTENT IN VIVO ACTIVATION AND TRANSIENT ANERGY TO TCR/CD3 STIMULATION OF NORMAL HUMAN INTESTINAL LYMPHOCYTES................................................................. 43

R. DeMaria, S. Fais, and R. Testi

FUNCTIONAL LACTOFERRIN RECEPTORS ON ACTIVATED HUMAN LYMPHOCYTES...................................................... 47

M.-L. Hammarström, L. Mincheva-Nilsson, and S. Hammarström

SUBSTANCE P PROMOTES PEYER’S PATCH AND SPLENIC B CELL DIFFERENTIATION.......................................................... 55

D.W. Pascual, K.W. Beagley, H. Kiyono, and J.R. McGhee

THE MIGRATION OF PERITONEAL CELLS TOWARDS THE GUT.................................................................................. 61

T. Sminia, M. Soesatyo, M. Ghufron, and T. Thepen

HML-1, A NOVEL INTEGRIN MADE OF THE β7 CHAIN AND OF A DISTINCTIVE α CHAIN, EXERTS AN ACCESSORY FUNCTION IN THE ACTIVATION OF HUMAN IEL VIA THE CD3-TCR PATHWAY........ 67

B. Bégue, S. Sarnacki, F. Deist, H. Buc, J. Gagnon, T. Méo, and N. Cerf-Bensussan

PHENOTYPE OF HML-1-POSITIVE AND HML-1-NEGATIVE T LYMPHOCYTES IN THE HUMAN INTESTINAL LAMINA PROPRIA....... 77


ADHERENCE OF PORCINE PEYER’S PATCH, PERIPHERAL BLOOD AND LYMPH NODE LYMPHOCYTES TO PEYER’S PATCH LAMINA PROPRIA..................................................... 81

A. Kadioglu and P. Sheldon

ASSESSMENT OF ENGRAFTMENT AND FUNCTION OF HUMAN TONSILLAR AND BLOOD MONONUCLEAR CELLS IN IMMUNODEFICIENT MICE........................................................................ 85


EXPRESSION OF VLA-4 AND L-SELECTIN IN HUMAN GUT-ASSOCIATED LYMPHOID TISSUE (GALT).................................................. 91

I.N. Farstad, T.S. Halstensen, D. Kvale1, O. Fausa, and P. Brandtzæg

COMPARTMENTALIZATION WITHIN THE COMMON MUCOSAL IMMUNE SYSTEM ................................................................. 97

INTRAPERITONEAL ADMINISTRATION OF TETANUS TOXOID ELICITS A SPECIFIC RESPONSE OF ANTIBODY-SECRETING CELLS IN THE PERITONEAL CAVITY................................................................. 103


THE COLON AND RECTUM AS INDUCTOR SITES FOR LOCAL AND DISTANT MUCOSAL IMMUNITY............................................................... 107

B. Haneberg, D. Kendall, H.M. Amerongen, F.M. Apter, and M.R. Neutra

A BASEMENT MEMBRANE MOLECULE PREFERENTIALLY ASSOCIATED WITH MUCOSAL POST-CAPILLARY VENULES..................... 111

T. Hussell, P.G. Isaacson, and J. Spencer

ANALYSIS OF INTRAEPITHELIAL LYMPHOCYTES AND PEYER'S PATCH LYMPHOID TISSUE IN TCR-ALPHA KNOCKOUT MICE............ 117

J. Viney, K. Philpott, and M. Owen

INTESTINAL T CELLS IN CD8α KNOCKOUT MICE AND T CELL RECEPTOR TRANSGENIC MICE................................................................. 121


ANALYSIS OF INTESTINAL INTRAEPITHELIAL LYMPHOCYTE (IEL) T CELLS IN MICE EXPRESSING ANTI-CD8 IMMUNOGLOBULIN TRANSGENES................................................................. 125


EFFECT OF NEONATAL THYMECTOMY ON MURINE SMALL INTESTINAL INTRAEPITHELIAL LYMPHOCYTES EXPRESSING T CELL RECEPTOR αβ AND "CLONALLY FORBIDDEN Vβs"........ 129

T. Lin, H. Takimoto, G. Matsuzaki, and K. Nomoto

DESIALylation OF RAT INTRAEPITHELIAL LYMPHOCYTES: EFFECTS ON PROLIFERATION AND DIPEPTIDYL PEPTIDASE IV ACTIVITY.................................................................................. 133

P.N. Boyaka, M. Coste, and D. Tomé

MINIMAL SIGNAL REQUIREMENTS FOR SUPERANTIGEN-SPECIFIC T CELL-DRIVEN B CELL PROLIFERATION............................................. 137

G.D. Wetzel

EXPRESSION OF CELL ADHESION MOLECULES IN THE FETAL GUT.................................................................................................................. 141

A. Dogan, T. T. MacDonald, and J. Spencer
A ROLE FOR ANTIGEN IN THE EVOLUTION OF GASTROINTESTINAL MALT-TYPE B CELL LYMPHOMA.......................................................... 145

T. Hussell, P.G. Isaacson, and J. Spencer

IN VIVO PROLIFERATION OF T AND B LYMPHOCYTES IN THE EPITHELIUM AND LAMINA PROPRIA OF THE SMALL INTESTINE........... 149


CYTOTOXIC ACTIVITY OF T CELLS EXPRESSING DIFFERENT T CELL RECEPTOR VARIABLE GENE PRODUCTS IN THE INTESTINAL MUCOSA................................................................. 151

M.E. Baca-Estrada and K. Croitoru

B-CELL PROMOTING ACTIVITY OF HUMAN COLOSTRAUM................... 153

I.I. Slukvin, V.V. Pilipenko, V.P. Chernyshov, and A.A. Philchenkov

EXPRESSION OF ADHESION MOLECULES ON THE SURFACE OF MALIGNANT CELLS AND CELL LINES...................................................... 159

J. Marinov, K. Koubek, and J. Stary

ERGOT ALKALOIDS-INDUCED CELL PROLIFERATION, CYTOTOXICITY, AND LYMPHOKINE PRODUCTION................................................. 163

A. Fiserová, G. Trinchieri, S. Chan, K. Bezouska, M. Flieger, and M. Pospisil

EFFECT OF CORTICOSTEROIDS ON LYMPHOCYTE ADHESION............. 167

D. Pearson and P. Sheldon

ADHERENCE OF RHEUMATOID LYMPHOCYTES TO ENDOTHELIOUM OF LAMINA PROPRIA.................................................................. 171

A. Kadioglu and P. Sheldon

NON-LYMPHOID CELLS OF THE MUCOSAL IMMUNE SYSTEM:
EPITHELIAL CELLS, APC, AND OTHER CELL TYPES

EXPRESSION OF SC, IL-6 AND TGF-β1 IN EPITHELIAL CELL LINES........................................................................................................ 175


BUTYRATE DIFFERENTIALLY AFFECTS CONSTITUTIVE AND CYTOKINE-INDUCED EXPRESSION OF HLA MOLECULES, SECRETORY COMPONENT (SC), AND ICAM-1 IN A COLONIC EPITHELIAL CELL LINE (HT-29, clone m3)............................................................................................................................ 183

D. Kvale and P. Brandtzaeg
CYTOKINES INDUCE AN EPITHELIAL CELL CYTOKINE RESPONSE................................................................. 189


MODULATION OF THE MHC CLASS I AND II MOLECULES BY BACTERIAL PRODUCTS ON INTESTINAL EPITHELIAL CELLS.............. 195

E.J. Schiffrin, Y. BoreI, and A. Donnet-Hughes

THE EFFECT OF MEDIUM DERIVED FROM ACTIVATED PERIPHERAL BLOOD MONONUCLEAR CELLS ON TWO INTESTINAL CELL LINES.............................................................. 197

U. Kärnström, O. Norén, and H. Sjöström

THE LEUCOCYTE PROTEIN L1 (CALPROTECTIN): A PUTATIVE NONSPECIFIC DEFENCE FACTOR AT EPITHELIAL SURFACES.............. 201


DIFFERENTIAL EXPRESSION OF LEUCOCYTE PROTEIN L1 (CALPROTECTIN) BY MONOCYTES AND INTESTINAL MACROPHAGES................................................................. 207

J. Rugtveit, H. Scott, T.S. Halstensen, O. Fausa, and P. Brandtzaeg

COMPLEMENT COMPONENT C3 PRODUCTION AND ITS CYTOKINE REGULATION BY GASTROINTESTINAL EPITHELIAL CELLS............... 211

A. Andoh, Y. Fujiyama, T. Bamba, S. Hosoda, and W.R. Brown

THE POLYMERIC IMMUNOGLOBULIN RECEPTOR: SIGNALS FOR POLARIZED EXPRESSION................................................................. 217

O. Poulain-Godefroy, R.P. Hirt, N. Fasel, and J.P. Kraehenbühl

NEURAL, ENDOCRINE AND IMMUNE REGULATION OF SECRETORY COMPONENT PRODUCTION BY LACRIMAL GLAND ACINAR CELLS........................................................................ 221

R.W. Lambert, J. Gao, R.S. Kelleher, L.A. Wickham, and D.A. Sullivan

ANTIGEN PRESENTATION BY A MOUSE DUODENAL EPITHELIAL CELL LINE (MODE-K)................................................................. 225

K. Vidal, I. Grosjean, and D. Kaiserlian

THE REGULATION OF IL-6 SECRETION FROM IEC-6 INTESTINAL EPITHELIAL CELLS BY CYTOKINES AND MUCOSALLY IMPORTANT ANTIGENS................................................................. 229


EPITHELIAL CELLS IN SOW MAMMARY SECRETIONS................................. 233

C. Le Jan
MICRODISSECTED DOMES FROM GUT-ASSOCIATED LYMPHOID TISSUES: A MODEL OF M CELL TRANSEPIHELIAL TRANSPORT IN VITRO

Z. Kabok, T.H. Ermak, and J. Pappo

EVIDENCE THAT MEMBRANOUS (M) CELL GENESIS IS IMMUNO-REGULATED

T.C. Savidge and M.W. Smith

A CONFOCAL MICROSCOPICAL ANALYSIS OF PEYER'S PATCH MEMBRANOUS (M) CELL AND LYMPHOCYTE INTERACTIONS IN THE SCID MOUSE

T.C. Savidge, M.W. Smith, and P.S. James

THE MODULATION OF CLASS I AND CLASS II MHC MOLECULES ON INTESTINAL EPITHELIAL CELLS AT DIFFERENT STAGES OF DIFFERENTIATION

A. Donnet-Hughes, Y. Borel, and E.J. Schiffrin

CRYPTDINS: ENDOGENOUS ANTIBIOTIC PEPTIDES OF SMALL INTESTINAL PANETH CELLS

S.S.L. Harwig, P.B. Eisenhauer, N.P. Chen, and R.I. Lehrer

PHYSICAL INTERACTION BETWEEN LUNG EPITHELIAL CELLS AND T LYMPHOCYTES


THE ROLE OF LYMPHO-EPITHELIAL INTERACTION IN THE REGULATION OF SMALL INTESTINAL EPITHELIUM PROLIFERATION

A.N. Shmakov, N.G. Panteleeva, A.V. Fedjanov, and V.A. Trufakin

DENDRITIC CELLS "IN VIVO": THEIR ROLE IN THE INITIATION OF INTESTINAL IMMUNE RESPONSES

L. Liu and G.G. MacPherson

DIRECT MODULATION OF ENTEROCYTE GROWTH BY ACTIVATED MACROPHAGES

A.K. Hutton and A. McI. Mowat

PENETRATION OF FLUORESCENT NEUTROPHILS THROUGH CULTURED EPITHELIUM STUDIED BY CONFOCAL MICROSCOPY

K.H. Peterson, B. Johansson, M. Johansson, and K.E. Magnusson

IMMUNOSTAINING WITH MONOCLONAL ANTIBODIES TO EOSINOPHIL CATIONIC PROTEIN (EG1 AND EG2) DOES NOT DISTINGUISH BETWEEN RESTING AND ACTIVATED EOSINOPHILS IN FORMALIN-FIXED TISSUE SPECIMENS

F. Jahnsen, T.S. Halstensen, and P. Brandtzaeg
THE ROLE OF MAST CELLS IN INTESTINAL IMMUNOPHYSIOLOGY
L. Wang, S. Savedia, M. Benjamin, and M.H. Perdue

MODULATION OF TUMOR NECROSIS FACTOR-ALPHA mRNA LEVELS BY INTERFERONS IN DIFFERENT POPULATIONS OF MAST CELLS
J.A. Enciso, E.Y. Bissonnette, and A.D. Befus

AGGREGATION OF THY-1 GLYCOPROTEIN INDUCES TYROSINE PHOSPHORYLATION OF DIFFERENT PROTEINS IN ISOLATED RAT MAST CELLS AND RAT BASOPHILIC LEUKEMIA CELLS
L. Dráberová and P. Dráber

EFFECTS OF SUBDIAPHRAGMATIC VAGOTOMY ON MUCOSAL MAST CELL DENSITIES IN STOMACH AND JEJUNUM OF RATS
T.P. Gottwald, S. Lhotak, and R.H. Stead

MECHANISMS OF NK RECOGNITION AND ACTIVATION BASED ON LECTIN-SACCHARIDE INTERACTIONS
M. Pospisil, K. Bezouska, M. Campa, A. Fiserova, J. Kubrycht, N. Huan, S. Chan, and G. Trinchieri

DETECTION OF CELLS WITH NK ACTIVITY FROM HISTOLOGICALLY NORMAL MUCOSA IN RELATION TO DISEASE

EFFECTS OF MESALAZINE ON LAMINA PROPRIA WHITE CELL FUNCTIONS
H.W. Verspaget

DEVELOPMENT OF MUCOSAL IMMUNITY: REPRODUCTIVE TRACT, ONTOGENY, PHYLOGENY, AND IMMUNODEFICIENCY
THE SIGNIFICANCE OF CULTIVATING CELLS AND HEMOPOIETIC TISSUE FROM TUNICATES
E.L. Cooper and D.A. Raftos

PERIENTERAL CHLORAGOGEN TISSUE AND ITS ROLE IN DEFENSE IN LUMBRICID WORMS
P. Sima, M. Bilej, and J. Slipka

THE SPLEEN AND ITS COELOMATIC AND ENTERIC HISTORY
P. Sima and J. Slipka
THE FATE OF PROTEIN ANTIGEN IN ANNELIDS - IN VIVO AND IN VITRO STUDIES ................................................................. 335

L. Tucková, M. Bilej, and J. Rejnek

HEMOLYTIC FUNCTION OF OPSONIN-LIKE MOLECULES IN COELOMIC FLUID OF EARTHWORMS .................................................... 341

M. Sinkora, M. Bilej, K. Drbal, and L. Tucková

ROLE OF LECTINS (C-REACTIVE PROTEIN) IN DEFENSE OF MARINE BIVALVES AGAINST BACTERIA .......................................................... 343

J.A. Olafsen

BACTERIAL ANTIGEN PRIMING OF MARINE FISH LARVAE .............. 349

J.A. Olafsen

PHYLOGENY OF THE IMMUNOGLOBULIN JOINING (J) CHAIN ............ 353

T. Takahashi, T. Iwase, K. Kobayashi, J. Rejneck, J. Mestecky, and I. Moro

GENITAL-ASSOCIATED LYMPHOID TISSUE IN FEMALE NON-HUMAN PRIMATES ................................................................. 357

T. Lehner, C. Panagiotidi, L.A. Bergmeier, L. Tao, R. Brookes, A. Gearing, and S. Adams

IMMUNOMORPHOLOGIC STUDIES OF HUMAN DECIDUA-ASSOCIATED LYMPHOID CELLS IN NORMAL EARLY PREGNANCY ......................... 367


IMMUNOCYTES AND CELL-MEDIATED IMMUNITY IN THE PATHOLOGY OF REPRODUCTION ....................................................... 373

K. Nouza, R. Kinsky, M. Petrovská, D. Dimitorv, R. Sedlák, J. Laitl, and J. Presl

INFLUENCE OF ESTROUS CYCLE AND ESTRADIOL ON MITOGENIC RESPONSES OF SPLENIC T- AND B-LYMPHOCYTES ...................... 379

R.H. Prabhala and C.R. Wira

SECRETORY COMPONENT PRODUCTION BY RAT UTERINE EPITHELIAL CELLS IN CULTURE .......................................................... 383

J.M. Richardson and C.R. Wira

HUMAN DECIDUAL CD7+ LYMPHOCYTES DISPLAY A UNIQUE ANTIGENIC PHENOTYPE ................................................................. 387

I.I. Slukvin, V.P. Chernyshov, and G.I. Bondarenko
IMMUNE CELLS ON INTRAUTERINE CONTRACEPTIVE DEVICES

I. Trebichavsky, O. Nyklicek, and M. Pospisil

CELLULAR AND HUMORAL IMMUNITY TO SPERM IN OVULATORY CERVICAL MUCUS FROM INFERTILE WOMEN

Z. Ulcová-Gallová and D. Sedláček

HISTOLOGY OF THE CONTINUOUS PEYER’S Patches IN THE TERMINAL ILEUM OF PIGS IN THE PERINATAL PERIOD

R. Halouzka and F. Kováru

EMBRYONIC LIVER: DIVERSIFICATION SITE OF LYMPHOCYTE LINEAGES

I. Trebichavsky, R. Pospisil, O. Nyklicek, I. Splichal, and L. Mandel

RETICULUM CELLS IN THE ONTOGENY OF NASAL-ASSOCIATED LYMPHOID TISSUE (NALT) IN THE RAT

J. Biewenga, M.N.M. van Poppel, T.K. van den Berg, E.P. van Rees, and T. Sminia

THE PRODUCTION OF TNF, IL-1 AND IL-6 IN CUTANEOUS TISSUES DURING MATURATION AND AGING

S.S. Stosic-Grujicic and M.L. Lukic

ONTOGONY OF THE MUCOSAL IMMUNE RESPONSE AGAINST DIFFERENT TYPES OF PNEUMOCOCCAL POLYSACCHARIDE IN RAT

G.P.J.M. van den Dobbelsteen, K. Brunekreef, H. Kroes, T. Sminia, and E.P. van Rees

INCREASED MANNOSE-SPECIFIC ADHERENCE AND COLONIZING ABILITY OF ESCHERICHIA COLI 083 IN BREASTFED INFANTS

M. Slavíková, R. Lodinová-Zádňíková, I. Adlerberth, L.A. Hanson, C. Svanborg, and A.E. Wold

THE INFLUENCE OF MILK FACTORS ON THE COURSE OF NEONATAL MOUSE CRYPTOSPORIDIOSIS - A PRELIMINARY REPORT

J. Hermanek and B. Koudela
GNOTOBIOLOGY, ENVIRONMENTAL, NUTRITIONAL, AND INTRINSIC FACTORS IN MUCOSAL IMMUNOLOGY

CELLULAR AND MOLECULAR BIOLOGIC APPROACHES FOR ANALYZING THE IN VIVO DEVELOPMENT AND MAINTENANCE OF GUT MUCOSAL IgA RESPONSES................................................. 429


A DUAL ORIGIN FOR IgA PLASMA CELLS IN THE MURINE SMALL INTESTINE ................................................................................... 435

F.G.M. Kroese, W.A. Ammerlaan, G.J. Deenen, S. Adams, L.A. Herzenberg, and A.B. Kantor

DEVELOPMENT OF MUCOSAL HUMORAL IMMUNE RESPONSES IN GERM-FREE (GF) MICE.............................................................. 441

K.E. Shroff and J.J. Cebra

INHIBITION OF BACTERIAL TRANSLOCATION FROM THE GI TRACT TO THE MESENTERIC LYMPH NODES IN SPF MICE BUT NOT GNOTOBIOTIC MICE BY NONSPECIFIC MACROPHAGE ACTIVATION................................................................................ 447

R.D. Berg

EXPRESSION OF Thy-1 ANTIGEN IN GERM-FREE AND CONVENTIONAL PIGLETS................................................................. 453


TRANSIENT APPEARANCE OF CIRCULATING INTERLEUKIN-6 AND TUMOR NECROSIS FACTOR IN GERM-FREE C3H/HeJ AND C3H/HeN MICE UPON INTESTINAL EXPOSURE TO E. COLI................... 459

U.I. Dahlgren, T. Midtvedt, and A. Tarkowski

STIMULATION OF INTESTINAL IMMUNE CELLS BY E. Coli IN GNOTOBIOTIC PIGLETS................................................................. 463

L. Mandel, I. Trebichavsky, I. Splichal, and J. Schulze

IMMUNOMODULATION OF THE GNOTOBIOTIC MOUSE THROUGH COLONIZATION WITH LACTIC ACID BACTERIA.................. 465

H. Link, F. Rochat, K.Y. Saudan, and E. Schiffrin

EXPRESSION OF INTERLEUKIN-2 RECEPTOR ON ENTEROCYTES IN CONVENTIONAL AND GERM-FREE RATS AFTER STIMULATION WITH GLIADIN.................................................................................. 469

J. Sinkora and R. Stepánková
FACTORS INFLUENCING THE FATE OF ESCHERICHIA COLI AND SALMONELLA TYPHIMURIUM IN GERM-FREE PIGLETS AND RATS...... 473
V. Dlabac, M. Talafantová, L. Mandel, and R. Stepánková

BIFIDOBACTERIA AND ESCHERICHIA COLI TRANSLOCATION IN GNOTOBIOTIC MICE................................................................. 479
V. Kmet, M. Kmetová, M. Contrepois, and Y. Ribot

EFFECTS OF NOCARDIA-DELIPIDATED CELL MITOGEN ON INTESTINAL MUCOSA AND SPLEEN LYMPHOCYTES OF GERM-FREE RATS................................................................. 483
H. Kozáková, R. Stépánková, H. Tlaskalová, R. Barot-Ciorbaru, and J. Kolinská

STIMULATION OF GALT BY NOCARDIA-DELIPIDATED CELL MITOGEN IN IRRADIATED GERMFREE PIGLETS................................................................. 489
I. Trebichavsky, L. Mandel, H. Tlaskalová, I. Splichal, and R. Barot

MUCOSAL ADAPTATION AND DESTRUCTION IN RESPONSE TO LAMINA PROPRIA T CELL ACTIVATION IN EXPLANTS OF HUMAN FETAL INTESTINE................................................................. 493
P. Lionetti, S.H. Murch, J. Taylor, and T.T. MacDonald

DEVELOPMENT OF IgE ANTIBODIES AND T CELL REACTIVITY AGAINST INTESTINAL BACTERIAL ANTIGENS IN RATS AND THE INFLUENCE OF FEEDING................................................................. 497
A. Dahlman, L.Å. Hanson, E. Telemo, and U.I. Dahlgren

EXPRESSION OF MHC CLASS II ANTIGENS AND ENZYMATIC ACTIVITY IN ENTEROCYTES OF GERM-FREE AND CONVENTIONAL RATS: DEPENDENCE ON NUTRITIONAL FACTORS DURING SUCKLING................................................................. 501
R. Stepánková, P. Kocna, J. Sterzl, and B. Dvorák

QUANTIFICATION OF SALIVARY, URINARY AND FECAL SECRETORY IgA, AS WELL AS IN SALIVA TITERS AND AVIDITIES OF IgA ANTIBODIES IN CHILDREN LIVING AT DIFFERENT LEVELS OF ANTIGENIC EXPOSURE AND UNDERNUTRITION ................................................. 507

ALTERATIONS OF GALT DUE TO MALNUTRITION AND DECREASE IN THE SECRETORY IMMUNE RESPONSE TO CHOLERA TOXIN............. 513
J. Fló, R. Benedetti, C. Feledi, S.G. Ariki, H. Goldman, M.E. Roux, and E. Massouh
DIETARY ANTIGEN HANDLING BY MOTHER AND OFFSPRING IN A TWO GENERATION STUDY .......................................................... 517

E. Telemo, U. Dahlgren, L.Å. Hanson, and A. Wold

THE EFFECT OF CALORIC SUPPLEMENTATION ON LEVELS OF MILK IgA ANTIBODIES AND THEIR AVIDITIES IN UNDER- NOURISHED GUATEMALAN MOTHERS ............................................. 521

M.V. Herfas, J.R. Cruz, T. González-Cossío, F. Nave, B. Carlsson, and L.Å. Hanson

THE EFFECT OF ELEMENTAL DIET ON GUT-ASSOCIATED LYMPHOID TISSUE (GALT) IN RATS ................................................ 525


EFFECT OF BACTERIAL ANTIGENS ON LOCAL IMMUNITY .............. 529

C. Ruedl, G. Wick, and H. Wolf

INTESTINAL AND SYSTEMIC IMMUNE RESPONSES IN RATS TO DIETARY LECTINS ................................................................. 533

E. Gómez, V. Ortiz, J. Ventura, R. Campos, and H. Bourges

THE EFFECT OF AN ANTI-GLUCOCORTICOID (ZK 98299) ON THYMUS EVOLUTION AND ON HYDROCORTISONE-INDUCED THYMOLYSIS, INTESTINAL BRUSH-BORDER ENZYMES AND THEIR DESIALYLATION IN SUCKLING RATS ..................................... 537

J. Kraml, J. Kolínská, L. Kadlecová, M. Zákostelecká, D. Hirsová, and V. Schreiber

A COMPARATIVE STUDY OF THE IMMUNE RESPONSE TO POLY-[α(2→8)-N-ACETYL NEURAMINIC ACID] ........................................... 543

J.D. Romero and I.M. Outshoorn

IN VIVO ACTIVATION OF EXTRATHYMIC T CELLS IN MICE BY STAPHYLOCOCCAL ENTEROTOXIN B .............................................. 549

K. Ohtsuka, H. Watanabe, H. Asakura, and T. Abo

INTERACTION OF A SULFHYDRYL ANALOGUE OF VASOACTIVE INTESTINAL PEPTIDE (VIP) WITH MURINE LYMPHOCYTES .......... 553

C.A. Ottaway

ANALYSIS OF SP/VIP FIBER ASSOCIATION WITH T4 AND T8 LYMPHOCYTES IN NORMAL HUMAN COLON ........................................... 559

P. Weisz-Carrington, N. Nagamoto, M. Farraj, R. Buschmann, E.B. Rypins, and A. Stanisz
CHOLECYSTOKININ-OCTAPEPTIDE (CCK-OP) AND SUBSTANCE P (SP): INFLUENCE IMMUNE RESPONSE TO CHOLERA TOXIN IN LIVE ANIMALS

S. Jarrah, M. Eran, S. Freier, and E. Yefenof

NEURITE OUTGROWTH INDUCED BY RAT LYMPHOID TISSUES IN VITRO

Y. Kannan, R.H. Stead, C.H. Goldsmith, and J. Bienenstock

EXERCISE, STRESS AND MUCOSAL IMMUNITY IN ELITE SWIMMERS


STRUCTURE, PROTEOLYSIS, AND FUNCTION OF MUCOSAL IMMUNOGLOBULINS: CELLULAR RECEPTORS

STRUCTURE OF IgA: FACTS AND GAPS IN OUR DATA ON DISULFIDE BONDS

J. Biewenga

INTRA- AND INTER-CHAIN DISULFIDE BRIDGES OF J CHAIN IN HUMAN S-IgA

A. Bastian, H. Kratzin, E. Fallgren-Gebauer, K. Eckart, and N. Hilschmann

CHARACTERIZATION OF IgA1, IgA2 AND SECRETORY IgA CARBOHYDRATE CHAINS USING PLANT LECTINS

A.E. Wold, C. Motas, C. Svanborg, L.A. Hanson, and J. Mestecky

HUMAN IgA1 AND IgA2 HAVE DISTINCT SPECTROTYPES BUT DISPLAY SUBCLASS SIMILARITIES BETWEEN INDIVIDUALS

P.A. Crowley-Nowick, J.E. Campbell, A.L. Mullins, and S. Jackson

PEPTIC FRAGMENTS OF RAT MONOMERIC IgA

J.P. Vaerman, A. Langendries, C. Van der Maelen, J.P. Kints, F. Cormont, F. Nisol, and H. Bazin

ANTIGENIC AND GENETIC HETEROGENEITY AMONG HAEMOPHILUS INFLUENZAE AND NEISSERIA IgA1 PROTEASES

H. Lomholt, K. Poulsen, and M. Kilian

TITRATION OF INHIBITING ANTIBODIES TO BACTERIAL IgA1 PROTEASES IN HUMAN SERA AND SECRETIONS

J. Reinholdt and M. Kilian
CLEAVAGE OF IgG AND IgA IN VITRO AND IN VIVO BY THE URINARY TRACT PATHOGEN PROTEUS MIRABILIS

M.A. Kerr, L.M. Loomes, and B.W. Senior

CLEAVAGE OF HUMAN IMMUNOGLOBULINS BY PROTEINASE FROM STAPHYLOCOCCUS AUREUS


CLONING, CHROMOSOMAL LOCALIZATION, AND LINKAGE ANALYSIS OF THE GENE ENCODING HUMAN TRANSMEMBRANE SECRETORY COMPONENT (THE POLY-Ig RECEPTOR)

P. Krajci, D. Kvale, and P. Brandtzaeg

THE COVALENT LINKAGE OF THE SECRETORY COMPONENT TO IgA

E. Fallgren-Gebauer, W. Gebauer, A. Bastian, H. Kratzin, H. Eiffert, B. Zimmermann, M. Karas, and N. Hilschmann

MOUSE SECRETORY COMPONENT


ANTIBODY PRODUCTION TO SECRETORY COMPONENT (SC) USING RECOMBINANT SC FRAGMENT

M. Kamei, T. Iwase, P. Krajci, P. Brandtzaeg, and I. Moro

A LACK OF RELATIONSHIP BETWEEN SECRETORY COMPONENT AND GALACTOSYLTRANSFERASE IN HUMAN MILK

K. Kobayashi, N. Mafune, H. Narimatsu, H. Nakao, and N. Taniguchi

SUBSTANCE P ACCELERATES SECRETORY COMPONENT-MEDIATED TRANSCYTOSIS OF IgA IN THE RAT INTESTINE

D. McGee, M. Eran, J.R. McGhee, and S. Freier

NEW FUNCTIONS FOR MUCOSAL IgA

M.E. Lamm, M.B. Mazanec, J.G. Nedrud, and C.S. Kaetzel

INTRACELLULAR NEUTRALIZATION OF SENDAI AND INFLUENZA VIRUSES BY IgA MONOCLONAL ANTIBODIES

M.B. Mazanec, C.S. Kaetzel, M.E. Lamm, D. Fletcher, J. Peterra, and J.G. Nedrud

THE BINDING OF MONOMERIC IgA TO MYELOID FcαR: EVIDENCE FOR RECEPTOR RE-CYCLING AND DETERMINATION OF ITS AFFINITY

W.W. Stewart and M.A. Kerr
PART B

CLINICAL IMMUNOLOGY, IMMUNOPATHOLOGY, IMMUNODEFICIENCY, AND ALLERGOLOGY

EVIDENCE FOR A GENERALIZED SIGNALING ABNORMALITY IN B CELLS FROM PATIENTS WITH COMMON VARIABLE IMMUNODEFICIENCY .......................................................... 699

E.M. Eisenstein and W. Strober

DEFECTS OF THE INTESTINAL HUMORAL IMMUNE SYSTEM IN COMMON VARIABLE IMMUNODEFICIENCY SYNDROME .................. 705


INCIDENCE OF PRIMARY IMMUNODEFICIENCIES IN A POPULATION OF SOUTH MORAVIA, CZECHOSLOVAKIA ...................... 709

J. Lokaj, J. Litzman, and P. Kuklinek

ABERRATIONS IN TITER AND AVIDITY OF SERUM IgM AND IgG ANTIBODIES TO MICROBIAL AND FOOD ANTIGENS IN IgA DEFICIENCY .............................................. 713

F. Cardinale, V. Friman, B. Carlsson, J. Björkander, L. Armenio, and L.A. Hanson

IMMUNOLOGICAL STUDY OF CHILDREN WITH IgA DEFICIENCY ........................................................................ 717

M. Spicakova, J. Novakova, J. Bartova, R. Barot-Ciorbaru, and H. Tlaskalova

DEVELOPMENT, FUNCTION, AND TRAFFICKING OF MUCOSAL LEUKOCYTES IN IMMUNODEFICIENT MICE ...................... 719

C.F. Cuff, D.H. Rubin, and J.J. Cebra

REARRANGEMENT OF RAG-1 RECOMBINASE GENE IN DNA-REPAIR DEFICIENT/IMMUNODEFICIENT "WASTED" MICE .......... 725


T LYMPHOCYTES SUBPOPULATIONS IN THE INTESTINAL VILLI OF IMMUNE DEFICIENT RAT ........................................... 729

S.G. Ariki and M.E. Roux

COMPARISON OF THE LOCAL IMMUNE RESPONSE TO NON-TYPABLE HAEMOPHILUS INFLUENZAE (nHI) AND MORAXELLA CATARRHALIS (MC) DURING OTITIS MEDIA ..................................... 733

H. Faden
IMMUNOLOGICAL EFFECTS OF TONSILLECTOMY/ADENECTOMY IN CHILDREN


TONSILLAR LYMPHOCYTE SUBSETS IN TONSILLITIS AND HYPERPLASIA

A.V. Chernyshov and O.F. Melnikov

A STUDY OF LYMPHOCYTE ADHERENCE TO MIDDLE EAR MUCOSAL TISSUE

D.A. Spilman, N.L. O'Sullivan, and P.C. Montgomery

AN ANIMAL MODEL TO STUDY THE MECHANISMS OF IMMUNITY INDUCED IN THE RESPIRATORY TRACT BY INTESTINAL IMMUNIZATION


IMMUNITY TO RESPIRATORY PSEUDOMONAS AERUGINOSA INFECTION: THE ROLE OF GUT-DERIVED T HELPER CELLS AND IMMUNE SERUM


IMMUNITY TO PSEUDOMONAS AERUGINOSA INDUCED BY OprF FOLLOWING INTESTINAL IMMUNIZATION

A.W. Cripps, M.L. Dunkley, D.C. Taylor, S. Cousins, and R.L. Clancy

THE PROTECTIVE ROLE OF PULMONARY NEUTROPHILS IN RATS INTESTINALLY IMMUNIZED WITH PSEUDOMONAS AERUGINOSA

A. Buret, M. Dunkley, R.L. Clancy, and A.W. Cripps

IMMUNITY TO RESPIRATORY PSEUDOMONAS AERUGINOSA INFECTION: P. AERUGINOSA-SPECIFIC T CELLS ARISING AFTER INTESTINAL IMMUNIZATION

M.L. Dunkley, A.W. Cripps, and R.L. Clancy

SECRETORY IgA AGAINST PERTUSSIS TOXIN AND SURFACE STRUCTURES OF BORDETELLA PERTUSSIS IN SALIVA OF CHILDREN WITH CULTURE PROVEN PERTUSSIS

M. Frühwirth, H. Wolf, H. Heiningr, J.P. Guggenbichler, and E. Stehr
ALTERATION OF CYTOKINE SECRETION AND CYTOTOXICITY OF MURINE ALVEOLAR MACROPHAGES AFTER IN VITRO INFECTION WITH RESPIRATORY SYNCYTIAL VIRUS (RSV)........................................ 785


LOCAL SPECIFIC IMMUNIZATION AND NON-SPECIFIC STIMULATION OF THE DEFENSE MECHANISMS OF THE RESPIRATORY TRACT OF SWINE.................................................. 791

G. Müller and H. Köhler

ASSESSMENT OF THE CLINICAL VALUE OF USING AN IMMUNOMODULATOR IN RECURRENT RESPIRATORY INFECTIONS............. 795

K.-C. Bergmann

REDUCTION OF THE NUMBER AND SEVERITY OF RESPIRATORY TRACT INFECTIONS IN CHILDREN BY ORAL IMMUNOSTIMULATION........................................................................ 799

R.J. Riedl-Seifert, A. van Aubel, A. Kämmereit, and U. Elsasser

ORAL IMMUNIZATION WITH LUNG-PATHOGENIC BACTERIA IS PROTECTIVE AGAINST DEFINED CHALLENGE IN A PIG AEROSOL INFECTION MODEL.................................................. 803


INDUCTION OF IMMUNE RESPONSES IN NASOPHARYNGEAL SECRETIONS AFTER ORAL IMMUNIZATION WITH BACTERIAL LYSATES................................................................. 807

A. Berber, R. Priego, L. Igelsias, S. Torres, and C. Camacho

USE OF GUT LAVAGE FLUID TO MEASURE INTESTINAL HUMORAL IMMUNITY, GI BLEEDING AND PROTEIN LOSSES IN SIERRA LEONEAN CHILDREN.............................................. 813

M. Hodges, K. Kingstone, W.G. Brydon, J. Sallam, and A. Ferguson

SMALL INTESTINAL BIOPSIES CHARACTERIZED BY LECTIN AND ACTIN LABELLING AND CONFOCAL MICROSCOPY.................. 817

K. Fälth-Magnusson, K.H. Peterson, H. Edenholm, L. Stenhammar, and K.-E. Magnusson

TNFα SECRETING CELLS IN NORMAL AND DISEASED HUMAN INTESTINE........................................................................ 821

E. Breese and T.T. MacDonald

LYMPHOCYTE SUBPOPULATIONS IN GUT-ASSOCIATED LYMPHOID TISSUE OF CATTLE WITH EXPERIMENTAL MUCOSAL DISEASE........... 825

E.M. Liebler, J.F. Pohlenz, and V. Moennig
CLONAL ANTIBODY DOMINANCE AFTER INFLUENZA VACCINATION IN IgA NEPHROPATHY PATIENTS AND CONTROLS

J. Radl, C.M. Hoogeveen, A.W.L. van den Wall Bake, and J. Mestecky

STUDY OF SALIVARY AND SERUM SECRETORY IgA IN IgA MESANGIAL NEPHRITIS AND PRIMARY GLOMERULONEPHRITIS

G. Rostoker, H. Terzidis, M. Petit-Phar, P. Lang, and B. Weil

STUDY OF INTESTINAL PERMEABILITY IN IgA MESANGIAL NEPHRITIS AND PRIMARY GLOMERULONEPHRITIS

G. Rostoker, V. Wirquin, H. Terzidis, M.-T. Chaumette, P. Lang, and B. Weil

IgE HETEROGENEITY AND BIOLOGICAL ACTIVITY

V. Zavážal, V. Krauz, H.D. Kratzin, and N. Hilschmann

IMMEDIATE NASAL RESPONSE TO ALLERGEN CHALLENGE CYTOLOGIC CHANGES IN THE NASAL SECRETIONS AND HISTOLOGIC CHANGES IN THE NASAL MUCOSA

Z. Pelikan and M. Pelikan-Filipek

LATE NASAL RESPONSE TO ALLERGEN CHALLENGE CYTOLOGIC CHANGES IN THE NASAL SECRETIONS AND HISTOLOGIC CHANGES IN THE NASAL MUCOSA

Z. Pelikan and M. Pelikan-Filipek

THE SIGNIFICANCE OF TRANSIENT MUCOSAL IgA DEFICIENCY ON THE DEVELOPMENT OF ASTHMA AND ATOPY IN CHILDREN


HYPERSENSITIVITY TO SOYBEAN PROTEINS IN EARLY WEANED PIGLETS: HUMORAL AND CELLULAR COMPONENTS

D. Dreau, J.P. Lalles, C. LeJan, R. Toullec, and H. Salmon

CD23/FcεRII IS CONSTITUTIVELY EXPRESSED ON HUMAN INTESTINAL EPITHELIUM, AND UPREGULATED IN COW'S MILK PROTEIN INTOLERANCE

D. Kaiserlian, A. Lachaux, I. Grosjean, P. Graber, and J.-Y. Bonnefoy

TWO-DIMENSIONAL ANALYSIS OF COW'S MILK ALLERGENS WITH THE IPG-DALT TECHNIQUE

COW’S MILK ALLERGY: THE HUMORAL IMMUNE RESPONSE TO EIGHT PURIFIED ALLERGENS ........................................................ 879


REGIONAL SMALL INTESTINAL PASSAGE IN THE RAT TO SOME COMMONLY USED PERMEABILITY PROBES .......................... 883

N. Pantzar, S. Lundin, L. Lindberg, and B.R. Weström

INTESTINAL PASSAGE OF $^{51}$ Cr-EDTA AND OVALBUMIN IN THE RAT WITH INTRA-ABDOMINAL SEPSIS .............................. 887

B.R. Weström, Q. Wang, N. Pantzar, B. Jeppsson, and B. Karlsson

CHEMOSENSITIVE AFFERENT NERVES IN THE REGULATION OF GASTRIC BLOOD FLOW AND PROTECTION .............................. 891

P. Holzer

IMMUNOPHENOTYPING OF HEMATOLOGICAL NEOPLASMS. I. EXPRESSION OF PROGENITOR CELL SURFACE ANTIGEN (CD34) .......... 897

K. Koubek, J. Marinov, and J. Starl

THE GENE FOR FAMILIAL MEDITERRANEAN FEVER IS MAPPED TO 16p 13.3- pl3.1 WITH EVIDENCE FOR HOMOGENEITY ................. 901

M. Shohat, N. Fischel-Ghodsian, J.I. Rotter, and Y.L. Danon

COMPARISON OF THE EFFECTS OF SULPHASALAZINE, 5-AMINOSALICYLIC ACID AND SULPHAPYRIDINE ON THE HUMORAL RESPONSE TO ANTIGEN IN VIVO ...................................................... 905

P. Sheldon and P. Pell

ADULT T CELL LEUKEMIA-DERIVED FACTOR AS AN ENDOGENOUS RADICAL SCAVENGER ............................................ 909

H. Nakamura, K. Furuke, M. Matsuda, T. Inamoto, and J. Yodoi

MICROBIAL, PARASITE, AND HIV MUCOSAL INFECTIONS

IMMUNE REACTION OF PIGS FOLLOWING INTRA-GASTRIC OR ILEAL INOCULATION OF ATTENUATED SALMONELLA TYPHI .......... 913

M.K. Loftager, J. Elmerdahl-Olsen, and L. Eriksen

MUCOSAL IMMUNE RESPONSE IN PATIENTS WITH DYSENTERY ....... 919

I. Ciznar, F. Qadri, S. Hoque, A.A. Bin, C. Schultsz, and G. Bartkova
A MONOCLONAL ANTIBODY TO *SHIGELLA DYSENTERIAE* SERO-TYPE 13 CROSS-REACTING WITH SHIGA TOXIN.......................... 923

F. Qadri, T. Azim, A. Hossain, D. Islam, G. Mondal,
S.M. Faruque, and M.J. Albert

STOMACH LYMPHOCYTES IN EXPERIMENTAL *HELICOBACTER*
INFECTION............................................................................... 927

C. Williams, K. MacDonald, and A.M. Mowat

SELECTIVE INCREASE OF CD4+ AND CD25+ T CELLS BUT NOT
OF γδ T CELLS IN *H. PYLORI* -ASSOCIATED GASTRITIS............... 931

C. Seifarth, A. Funk, K. Reich, I. Dähne, M. Classen,
and K. Deusch

MUCOSAL AND SERUM IgA ANTIBODIES IN PIGS FOLLOWING
INFECTION WITH *ACTINOBACILLUS PLEUROPNEUMONIAE*......... 935

M.K. Loftager, L. Eriksen, and R. Nielsen

RECOGNITION OF ACIDIC PROTEINS OF *GIARDIA MURIS*
BY ANTI-TROPHOZOITE ANTIBODIES........................................ 939

M.F. Heyworth and J.A. Vergara

ELECTROPHYSIOLOGIC AND MORPHOLOGIC EFFECTS OF
*ENTAMOEBA HISTOLYTICA* LYSATES ON RABBIT COLON.............. 945

F. Navarro-García, R. López-Revilla, and V. Tsutsumi

SPECIFIC ANTIAMEBIC SERUM ANTIBODIES IN MEXICAN
PUERPERAE AND THEIR NEWBORNS......................................... 949

L. Aguirre-Cruz, R. López-Revilla, E. Zacapa, C. Martínez,
and O. Muñoz

THE ROLE OF INTRA-EPITHELIAL AND LAMINA PROPIA
LEUCOCYTES DURING INFECTION WITH *EIMERIA TENELLA*......... 953

L. Vervelde and S.H.M. Jeurissen

PATTERNS OF CYTOKINE mRNA IN *TRICHINELLA SPIRALIS*
INFECTED RATS......................................................................... 959

A.W. Stadnyk

SPECIFIC ANTI-*E. HISTOLYTICA* IgA MONOCLONAL ANTIBODIES.... 963

C. Ximenez, P. Moran, P. Ramos, O. Leyva, and E.I. Melendro

IMMUNOPATHOLOGICAL RESPONSES OF DBA/2 MICE TO
PRIMARY INFECTIONS OF THE BILE DUCT TAPEWORM,
*HYMENOLEPIS MICROSTOMA* AND THE EFFECT OF
ANTHELMINTIC TREATMENT.................................................. 967

J. Andreassen and S. Holm
CYTOKINE REGULATION OF INTESTINAL MASTOCYTOSIS IN NIPPOSTRONGYLUS BRASILIENSIS INFECTION............................... 971

I.M. Katona, J.F. Urban, Jr., F.D. Finkelman, W.C. Gause, and K.B. Madden

GLYCOCONJUGATES IN RAT SMALL INTESTINAL MUCOSA DURING INFECTION WITH THE INTESTINAL NEMATODE NIPPOSTRONGYLUS BRASILIENSIS................................................ 975

T. Oinuma, T. Abe, Y. Nawa, J. Kawano, and T. Suganuma

CYTOKINE RESPONSE IN THE INTESTINAL LAMINA PROPRIA OF MICE AFTER INFECTION WITH FASCIOLA HEPATICA .................. 979


EGG-NEGATIVE RESIDENTS OF AN OPISTHORCHIASIS-ENDEMIC AREA POSSESS HIGH LEVELS OF ANTI-OPISTHORCHIS ANTIBODIES....................................................................................... 983

P.S. Akai, S. Pungpak, V. Kitikoon, D. Bunnag, and D. Befus

THE EFFECT OF T-CELL MITOGENS AND CYTOKINES ON THE INFECTIVITY OF HUMAN FALLOPIAN TUBE MUCOSA BY CHLAMYDIA TRACHOMATIS................................................ 987

A. Khamesipour, E.J. Moticka, and M.D. Cooper

ANTIBODY SECRETING CELLS IN UPPER URINARY TRACT INFECTION: COMPARISON OF THE RESPONSE IN CHILDREN AND ADULTS................................................................. 991

A. Kantele, J. Kantele, O. Honkinen, J. Mertsola, and H. Arvilommi

DETECTION OF HEPATITIS C VIRUS (HCV)-RNA IN SALIVA AND GASTRIC JUICE.......................................................... 995

K. Komiyama, F. Kawamura, Y. Arakawa, H. Mastuo, N. Hayashi, T. Shikata, and I. Moro

HERPES- AND CORONA-VIRUS INFECTION OF RAT LACRIMAL ACINAR CELLS............................................................................. 999

L.A. Wickham, Z. Huang, R.W. Lambert, and D.A. Sullivan

INFECTIVITY BY HIV-1 OF HUMAN UTERINE ENDOMETRIAL CARCINOMA CELLS...................................................... 1003


IgA SUBCLASSES AND MOLECULAR SIZE IN CHILDREN WITH VERTICALLY TRANSMITTED HIV INFECTION.............................. 1007

F. Mascart-Lemone, J. Levy, S. Depelchin, J.-P. Dehennin, R. Cooman, Y. Sibille, and J.-P. Vaerman
INTESTINAL IMMUNE RESPONSIVENESS IN HIV-INFECTED INDIVIDUALS

K. Eriksson, A. Kilander, L. Hagberg, G. Norkrans, J. Holmgren, and C. Czerkinsky

LOSS OF CD4 POSITIVE T CELLS AND EVIDENCE FOR IMPAIRED DIFFERENTIATION OF BOTH CD4 AND CD8 POSITIVE T CELLS IN THE LARGE INTESTINE OF PATIENTS INFECTED WITH HUMAN IMMUNODEFICIENCY VIRUS (HIV)


LOSS OF ACTIVATED CD4-POSITIVE T CELLS AND INCREASE IN ACTIVATED CYTOTOXIC CD8-POSITIVE T CELLS IN THE DUODENUM OF PATIENTS INFECTED WITH HUMAN IMMUNODEFICIENCY VIRUS


BIASED T CELL RECEPTOR Vβ REPERTOIRE OF INTESTINAL CD8+ T CELLS IN HIV DISEASE

K. Reich, I. Dähne, N. Endres, M. Classen, and K. Deusch

NEUTRALIZATION OF HIV INFECTION BY SERUM IgA ANTIBODIES

P. Kozlowski, R.W. Buckheit, Jr., and S. Jackson

WHOLE AND PAROTID SALIVA IgA AND IgA-SUBCLASS RESPONSES TO CANDIDA ALBICANS IN HIV INFECTION

S.P. Sweet, S.J. Challacombe, and J R. Naglik

DECREASED IgA-PRODUCING CELLS IN THE GUT OF SIV-INFECTED RHESUS MONKEYS


FUNCTIONAL AND PHENOTYPIC LYMPHOCYTE POPULATION CHANGES IN THE MESENTERIC LYMPH NODES OF MURINE-AIDS INFECTED MICE

M.C. Lopez, D.S. Huang, D.L. Way, and R.R. Watson
IMMUNOLOGY OF THE LIVER

TRANSPORT INTO RAT BILE OF RADIOLABELLED INTRAVENOUS HUMAN POLYMERIC IgA1 AND IgA2, TREATED OR NOT WITH NEURAMINIDASE.......................................................... 1043

J.-P. Vaerman, A. Langendries, C.V. Maelen,
and M.F. Van DenHove

HEPATIC ELIMINATION OF CIRCULATING IgA IMMUNE COMPLEXES: A COMPARISON BETWEEN RATS AND GUINEA PIGS.......................................................... 1049

A. Johansson and T. Skogh

THE INVOLVEMENT OF KUPFFER CELLS AND LIVER ENDO- THELIAL CELLS IN THE CLEARANCE OF LARGE SIZED SOLUBLE IgA AGGREGATES IN RATS.................................................. 1053


ISOLATION AND PRELIMINARY CHARACTERIZATION OF HUMAN MONONUCLEAR LIVER CELLS ........................................................ 1057

H.U. Jahn, R. Ullrich, T. Schneider, H.L. Schieferdecker,
D.C. Schmidt, P. Neuhaus, U. Hopf, E.O. Riecken, and M. Zeitz

IgA PRODUCTION AND TRANSPORT IN THE MURINE LIVER AFTER MUCOSAL IMMUNIZATION................................................. 1061

H.-Y. Wu, P.L. White, K.W. Beagley, G.D.F. Jackson,
J. Mestecky, and M.W. Russell

DETECTION OF IgA AND ITS RECEPTOR IN THE EXOCRINE PANCREAS AND THE EXTRAHEPATIC BILE DUCT OF THE RAT............. 1067

X.B. Havaux, J.-P. Vaerman, P. Maldague, and P.J. Courtoy

MULTIPLE INTRAPERITONEAL INJECTIONS OF TURKEY SERUM CAUSE A MAJOR ENLARGEMENT OF THE BILIARY TREE IN BALB/c MICE.......................................................... 1071

K. Goto, X.B. Havaux, P. Maldague, P.J. Courtoy, P.G. Pierre,
A. Langendries, and J.P. Vaerman

ANTIBODY BINDING TO LIVER CELLS AND CELL DIFFEREN- TIATION STATE.......................................................... 1075

T. Morizane, T. Watanabe, T. Kagawa, R. Tsunematsu,
S. Tada, S. Miyaguchi, H. Saito, and M. Tsuchiya

EXPRESSION OF INTERFERON-γ GENE IN THE LIVER FROM PATIENTS WITH LIVER AND GASTROINTESTINAL TRACT DISEASES.......................................................... 1079

H. Fukuma, S.A. Morshed, S. Watanabe, and M. Nishioka
TUMOR NECROSIS FACTOR α – A CONSTITUTIVE PROTEIN OF BILE................................................................. 1083
  G.D.F. Jackson, Y. Dai, C. Fung, and P.G.C. Hansen

ANTI-PARIETAL CELL ANTIBODY IN AUTOIMMUNE LIVER DISEASES IS ASSOCIATED WITH GASTRIC MUCOSAL ATROPHY AND INTESTINAL METAPLASIA.......................................................... 1087
  H. Oya, Y. Uchida, S.A. Morshed, and M. Nishioka

CYTOKINE GENE EXPRESSION IN THE LIVER............................................ 1091
  S.A. Morshed, H. Fukuma, and M. Nishioka

ORAL IMMUNOLOGY AND IMMUNOPATHOLOGY

INTRAEPITHELIAL LYMPHOCYTES EXPRESSING TCRγδ IN HUMAN GINGIVAL TISSUES............................................... 1097
  C. Lundqvist, S. Hammarström, and M.-L. Hammarström

CHARACTERIZATION OF CYTOKINE PRODUCING T CELLS, TCR EXPRESSION, AND IgA PLASMA CELLS IN SALIVARY GLAND-ASSOCIATED TISSUES........................................................................ 1103
  J. Mega, J.R. McGhee, and H. Kiyono

LOCAL ANTIBODIES AND CYTOKINE RESPONSES IN CREVICAL FLUID OF PATIENTS WITH JUVENILE PERIODONTITIS................... 1109
  J. Bártová, O. Krejša, M. Sirová, H. Tlaskalová, J. Procházková,
  and J. Dusková

GENERATION AND DISTRIBUTION OF ANTIBODY SECRETING CELLS IN SALIVARY GLANDS OF MICE IMMUNIZED WITH PORPHYROMONAS GINGIVALIS FIMBRIAE........................................... 1113
  S. Hamada, T. Ogawa, and Y. Kusumoto

EXPRESSION AND IMMUNOGENICITY OF A CLONED PORPHYROMONAS GINGIVALIS HEMAGGLUTININ IN SALMONELLA TYPHIMURIIUM................................................................. 1119
  D.M. Dusek, A. Progulske-Fox, and T.A. Brown

T-SUBSETS AND DISTURBED IMMUNOREGULATION IN PATIENTS WITH PERIODONTAL DISEASE........................................ 1123
  E. Heumader, B. Albini, I. Moschen, G. Wick, and H. Wolf

CHANGES IN NEUTROPHIL FUNCTION IN PATIENTS WITH EARLY ONSET PERIODONTITIS ACCORDING TO FAMILY OCCURRENCE OF THE DISEASE.................................................. 1127
  J. Procházková, J. Bártová, O. Krejša, R. Smausová,
  J. Dusková, and L. Mrklas
VLA-4/VCAM-1 PATHWAY IN HUMAN PERIODONTAL DISEASE............ 1131
T. Tsurumachi, K. Nishi, M. Hayashi, T. Saito, I. Saito, and I. Moro

γδ T LYMPHOCYTES IN MARGINAL PERIODONTITIS IN PATIENTS WITH DOWN'S SYNDROME........................................ 1135
P.D.C. Søhoel, R. Jonsson, A.C. Johannessen, and R. Nilsen

PEPTIDE MAPPING AND AMINO ACID SEQUENCE ANALYSIS OF THE 40 KDA OUTER MEMBRANE PROTEIN OF FUSOBACTERIUM NUCLEATUM ................................................................. 1137
H.C. Søhoel and E.N. Vasstrand

DEVELOPMENT OF SALIVARY IgA ANTIBODY TO ORAL STREPTOCOCCAL ANTIGENS ASSOCIATED WITH VIRULENCE.............. 1141
D.J. Smith and M.A. Taubman

DENTAL CARIES AND SALIVARY ANTI-STREPTOCOCCUS MUTANS ANTIBODIES IN IgA DEFICIENT CHILDREN............... 1145
F.R.C. Fernandes, A. T. Nagao, F. Zelante, and M.M.S. Carneiro-Sampaio

DIFFERENCES IN SECRETORY IgA AND SERUM ANTIBODIES TO STREPTOCOCCUS MUTANS ISOLATES FROM CARIES-RESISTANT AND CARIES-SUSCEPTIBLE SUBJECTS............................ 1149
R.L. Gregory, L.E. Gfell, and H.S. Malmstrom

INDUCTION OF SALIVARY IgA RESPONSES TO STREPTOCOCCUS MUTANS ANTIGEN I/II AFTER INTRANASAL IMMUNIZATION......... 1153

POTENTIAL FOR GLUCOSYLTRANSFERASE-BASED SYNTHETIC PEPTIDES IN A DENTAL CARIES VACCINE.......................... 1157
D.J. Smith and M.A. Taubman

LACK OF CROSS-REACTION OF ANTIBODIES AGAINST CELL-ASSOCIATED GLUCOSYLTRANSFERASE FROM STREPTOCOCCUS MUTANS WITH HUMAN HEART TISSUE........................................... 1161
T. Iwase, J. Hiraoka, T. Horikoshi, S. Hamada, and I. Moro

THE CONCENTRATIONS OF SECRETORY IMMUNOGLOBULIN A AND SPECIFIC S-IgA ANTIBODIES IN THE SALIVA OF SCHOOL CHILDREN................................................................. 1167
T.G. Nuesslein, C. Goebel, F. Riedel, H. Prinz, and C.H.L. Rieger
IMMUNIZATION AGAINST THE ORAL INDIGENOUS BACTERIA OF THE BALB/c MOUSE ................................................................. 1173

H. Marcotte, L. Rodrigue, M. Gamache, and M.C. Lavoie

OLIGOSACCHARIDES IN MUCOSAL HOST DEFENSE MODEL, METHOD AND FIRST DATA ........................................... 1177


POSSIBLE ROLE OF EBV IN ORAL SQUAMOUS CELL CARCINOMA-EBV INHIBITS PROGRAMMED CELL DEATH OF SQUAMOUS CELLS ................................................................. 1183

T. Tanka, I. Kudo, and I. Moro

EXPRESSION OF ras-P21 IN SALIVARY GLAND TUMORS .................. 1187

K. Kusama, L. Chu, T. Suzuki, S. Okutsu, I. Kudo, and I. Moro

AUTOIMMUNITY, ORAL TOLERANCE, AND AGING

AUTOIMMUNE REACTIONS INDUCED BY GLIADIN ..................... 1191


INFLUENCE OF ANDROGEN THERAPY ON LACRIMAL AUTOIMMUNE DISEASE IN A MOUSE MODEL OF SJÖGREN'S SYNDROME ................................................................. 1199

D.A. Sullivan, F.J. Rocha, and E.H. Sato

T-CELL RECEPTOR V-GENE USAGE IN SJÖGREN'S SYNDROME .......... 1203

C. Fredriksen, A.C. Johannessen, and R. Jonsson

PREFERENTIAL USE OF THE VHIII IMMUNOGLOBULIN GENE FAMILY FOR THE SYNTHESIS OF RHEUMATOID FACTORS .................. 1207

M. Abderrazik, M. Moynier, and J. Brochier

GENE HYPOTHESIS OF AUTOIMMUNITY, AND AUTOIMMUNE DISEASE ................................................................. 1213

W.B. Storch

TREATMENT OF AUTOIMMUNE DISEASES BY ORAL TOLERANCE TO AUTOANTIGENS .................................................. 1217

ORAL TOLERANCE IN HUMANS: T CELL BUT NOT B CELL TOLERANCE TO A SOLUBLE PROTEIN ANTIGEN................................. 1225
S. Husby, J. Mestecky, Z. Moldoveanu, and C.O. Elson

ORAL TOLERANCE TO OV ALBUMIN IN MICE: EFFECT OF SOME PARAMETERS ON THE INDUCTION AND PERSISTENCE OF THE SUPPRESSION OF SYSTEMIC IgE AND IgG ANTIBODY RESPONSES................................................................. 1229
M.C. Moreau, M. Coste, V. Gaboriau, and C. Dubuquoy

EVIDENCE OF A DIRECT ROLE FOR MUCOSAL IMMUNE CELLS IN THE INDUCTION OF ORAL TOLERANCE................................. 1235
E. Furrie, M. Turner, and S. Strobel

THE ABSENCE OF GUT FLORA HAS NO EFFECT ON THE INDUCTION OF ORAL TOLERANCE TO OV ALBUMIN.............................. 1239
E. Furrie, M. Turner, and S. Strobel

SPECIFIC IMMUNOLOGICAL NON-RESPONSIVENESS INDUCED BY ANTIGENS VIA MUCOSAL SURFACES........................................ 1243
B. Metzler and D.C. Wraith

THE INFLUENCE OF ANTIGEN DIGESTION IN ORALLY INDUCED IMMUNITY AND TOLERANCE......................................................... 1245
S.L. Jain and J.G. Michael

MUCOSAL SUPPRESSION BY ORAL PRE-TREATMENT WITH OV ALBUMIN AND ITS CONVERSION INTO STIMULATION WHEN OV ALBUMIN WAS CONJUGATED TO CHOLERA TOXIN OR ITS B SUBUNIT................................................................................... 1251
P.J. van der Heijden, W. Stok, and A.T.J. Bianchi

CHRONIC INFLAMMATION, INFLAMMATORY BOWEL DISEASES AND CELIAC DISEASE

EXPLOITATION OF THE WHOLE GUT LAVAGE TECHNIQUE FOR IN VIVO ASSESSMENT OF INTESTINAL IMMUNITY AND INFLAMMATORY BOWEL DISEASE................................................................. 1257
A. Ferguson, C.P. Choudari, O. Mwantembe, and L. Handy

THE INCIDENCE OF COLONIC NATURAL KILLER CELLS, LARGE GRANULAR LYMPHOCYTES AND MAST CELLS IN INFLAMMATORY BOWEL DISEASE................................................................. 1261
L.R. Emmons, U. Schaub, and F. Hadziselimovic
EVIDENCE FOR A REGULATORY "DEFECT" FOR CD4 POSITIVE INTESTINAL T CELLS IN VITRO IN PATIENTS WITH IBD COMPARED TO NORMALS

M. Niessner, W. Gerok, and B.A. Volk

EPITHELIAL DEPOSITS OF IMMUNOGLOBULIN G1 AND ACTIVATED COMPLEMENT CO-LOCALIZE WITH THE "Mr 40kD" PUTATIVE AUTO ANTIGEN IN ULCERATIVE COLITIS

T.S. Halstensen, K.M. Das, and P. Brandtzaeg

IMMUNOGLOBULIN SUBCLASS DISTRIBUTION OF ANTI-LPS ANTIBODY-SECRETING CELLS OF COLONIC MUCOSA FROM PATIENTS WITH INFLAMMATORY BOWEL DISEASE

M. Arashi, K. Konno, and A. Yachi

CELL ACTIVATION AND PROLIFERATION IN THE LARGE INTESTINE OF PATIENTS WITH CROHN'S DISEASE OR ULCERATIVE COLITIS AND CONTROLS


ALTERED EXPRESSION OF T CELL DIFFERENTIATION ANTIGENS IN T CELLS ISOLATED FROM THE LARGE INTESTINE OF PATIENTS WITH CROHN'S DISEASE OR ULCERATIVE COLITIS


ACTIVATION OF LAMINA PROPRIA T LYMPHOCYTES IN CROHN'S DISEASE

L. Qiao, G. Schürmann, S.C. Meuer, and F. Autschbach

ALTERATIONS IN THE CYTOTOXIC ACTIVITY OF CROHN'S DISEASE PERIPHERAL BLOOD T CELLS EXPRESSING DIFFERENT T CELL RECEPTOR VARIABLE GENE PRODUCTS

M.E. Baca-Estrada and K. Croitoru

IN SITU DETECTION OF INTERLEUKIN-18 AND INTERLEUKIN 8 IN BIOPSY SPECIMENS FROM PATIENTS WITH ULCERATIVE COLITIS


EFFECTS OF MESALAZINE ON THE FORMATION OF LIPOXYGENASE AND CYCLOOXYGENASE PRODUCTS

K. Lauritsen, L.S. Laursen, J. Kjeldsen, K. Bukhave, T.K. Hansen, and J. RaskMadsen
LEUKOCYTE-ENDOTHELIAL CELL INTERACTIONS: POTENTIAL TARGETS FOR MESALAZINE IN CROHN'S DISEASE ................. 1307
A.J. Wakefield, M. Hudson, and R.E. Pounder

P-ANCA AS A DIFFERENTIAL DIAGNOSTIC MARKER IN INFLAMMATORY BOWEL DISEASE ................................................. 1313

ANTIOXIDANT PROPERTIES OF 5-AMINOSALICYLIC ACID: POTENTIAL MECHANISM FOR ITS PROTECTIVE EFFECT IN ULCERATIVE COLITIS ..................................................... 1317
A.M. Miles and M.B. Grisham

INTERFERON ALFA-2A (ROFERON) AS A TREATMENT OF INFLAMMATORY BOWEL DISEASE IN CHILDREN AND ADOLESCENTS ................................................................. 1323
F. Hadziselimovic, U. Schaub, and L.R. Emmons

DISTRIBUTION AND DENSITY OF TNF IMMUNOREACTIVITY IN CHRONIC INFLAMMATORY BOWEL DISEASE ................... 1327
S.H. Murch, C.P. Braegger, J.A. Walker-Smith and T.T. MacDonald

4D5.4, A MONOCLONAL ANTIBODY WHICH RECOGNIZES CELLS IN INFLAMED HUMAN INTESTINE .............................................. 1331
J. Taylor, T.T. MacDonald, and J. Spencer

TCRγδ+ AND CD8+TCRαβ+ INTRAEPITHELIAL LYMPHOCYTES (IEL) EXPRESS PROLIFERATION MARKER (Ki-67) IN THE COELIAC LESION ........................................................................ 1333
T.S. Halstensen and P. Brandtzaeg

ANALYSIS OF MARKER GENES CONTRIBUTING TO COELIAC DISEASE SUSCEPTIBILITY ......................................................... 1339
E. Roschmann, T.F. Wienker, W. Gerok, and B.A. Volk

JEJUNAL FLUID ANTIBODIES AND MUCOSAL GAMMA/DELTA IEL IN LATENT AND POTENTIAL COELIAC DISEASE ......................... 1345
E. Arranz and A. Ferguson

IgA SUBCLASS DISTRIBUTION OF IgA ANTI-GLIADIN ANTIBODIES IN FECES OF PATIENTS WITH COELIAC DISEASE ................. 1349
SOLUBLE CD4 ANTIGEN IS INCREASED IN ACTIVE COELIAC DISEASE................................................................. 1355

A. Blanco, J.A. Garrote, M. Alonso, E. Arranz, and C. Calvo

THE INTERACTION OF GLIADIN WITH EFFECTOR AND TARGET CELLS IN NK CELL ACTIVITY OF PATIENTS WITH CELIAC DISEASE................................................................. 1359

H.H. Nguyen, M.A. Farré, H. Tlaskalová, M. Pospisil, and P. Fric

CRYPT EPITHELIAL CELLS EXPRESS THE 4F2 ANTIGEN IN UNTREATED COELIAC MUCOSA........................................ 1363

L. Maiuri, R. Troncone, S. Fais, S. Coletta, A. Picarelli, and F. Pallone

SHORT-TERM CULTIVATION OF DUODENAL BIOPSIES IN PATIENTS WITH COELIAC DISEASE. EFFECT OF THE GLUTEN CHALLENGE AND GLIADIN PEPTIDES........................................... 1367

P. Kocna, P. Fric, H. Tlaskalová, V. Krchnák, E. Kasafírek, M. Siová, and C. Czerkinsky

INTERACTION OF NATURAL AND SYNTHETIC PEPTIDES DERIVED FROM GLIADIN WITH DIFFERENT CELL LINES................................. 1371


DOSE- AND TIME-DEPENDENT ULTRASTRUCTURAL AND FUNCTIONAL LESIONS OF THE COLONIC MUCOSA BY ENTAMOEBA HISTOLYTICA LYSATES.................................................. 1375

F. Navarro-García, R. López-Revilla, and V. Tsutsumi

IMMUNOPATHOGENETIC MECHANISMS IN SPONDYLARTHROPATHY AND GUT INFLAMMATION........................................ 1379


RECURRING VIRAL PATHOLOGY AND IMMUNOLOGICAL IMPLICATIONS................................................................. 1381

P. Grima, A. De Maria, M. Massa, A. Romano, and P. Tundo

IMMUNOLOGICAL STUDIES OF THE MUCOSA IN COLITIS INDUCED BY SODIUM DEXTRAN SULFATE IN RATS.................................................. 1383

H. Takizawa, H. Asakura, T. Sasakiwa, H. Bannai, and M. Nomoto

NON-LYMPHOID CELLS IN EXPERIMENTAL INFLAMMATORY BOWEL DISEASE................................................................. 1389

E.P. van Rees, M. Soesatyo, M. van der Ende, A.S. Pena, and T. Sminia
IMMUNOHISTOCHEMICAL STUDY OF RAT PEYER'S PATCHES IN PEPTIDOGLYCAN-POLYSACCHARIDE COMPLEX-INDUCED CHRONIC ENTERITIS ................................................................. 1395


ORAL MERCURIC CHLORIDE LEADS TO INTESTINAL BASEMENT MEMBRANE (IBM) IMMUNE COMPLEX DEPOSITION AND FECAL PROTEIN LOSS ................................................................. 1399

P. Knoflach, B. Albini, and M.M. Weiser

THE ROLE OF NITRIC OXIDE IN ENTEROPATHY ........................................ 1403

P. Garside, A. Severn, F.Y. Liew, and A. Mcl. Mowat

INDUCTION OF MUCOSAL IMMUNE RESPONSES AND VACCINE DELIVERY SYSTEMS

INDUCTION OF SPECIFIC IMMUNITY AT MUCOSAL SURFACES: PROSPECTS FOR VACCINE DEVELOPMENT ................................................................. 1409


MUCOSAL RESPONSIVENESS AS A DETERMINANT OF PROTECTION MECHANISMS INDUCED BY ORAL IMMUNIZATION ........................................ 1417

R. Clancy, G. Pang, and A. Cripps

ORAL IMMUNIZATION STUDIES WITH STREPTOCOCCUS MUTANS AND INFLUENZA VACCINES IN RHESUS MACAQUE MONKEYS ................................................................. 1423


THE ANTIBODY RESPONSE IN INFANTS AFTER ORAL ADMINISTRATION OF INACTIVATED AND LIVING E. COLI VACCINES AND THEIR PROTECTIVE EFFECT AGAINST NOSOCOMIAL INFECTIONS ................................................................. 1431

R. Lodinová-Zádníková, H. Tlaskalová, B. Korych, and Z. Bartáková

DO CD5 B CELLS RESPOND TO ORAL ANTIGENS? ........................................ 1439


INDUCTION OF SPECIFIC ANTIBODY RESPONSES IN THE HUMAN NASOPHARYNGEAL MUCOSA ................................................................. 1445

M. Quiding, M. Lakew, G. Granström, I. Nordström, J. Holmgren, and C. Czerkinsky
PHENOTYPIC CHARACTERIZATION OF CIRCULATING ANTIBODY-SECRETING CELLS AFTER MUCOSAL AND SYSTEMIC IMMUNIZATIONS IN HUMANS

M. Lakew, I. Butcher, and C. Czerkinsky

INDUCTION OF CTL BY ORAL IMMUNIZATION

G.A. Enders

IMMUNIZATION BY THE ENTERAL AND RESPIRATORY ROUTE WITH VAILABLE AND INACTIVATED BACTERIA RESULTS IN A DIFFERENTIAL INCREASE IN LYMPHOCYTE SUBSETS IN THE BRONCHOALVEOLAR SPACE

R. Pabst, S. Delventhal, A. Hensel, and K. Petzoldt

BIODEGRADABLE MICROPARTICLES AS ORAL VACCINES


INTRADUODENAL IMMUNIZATION WITH MICROENCAPSULATED CFA/II INDUCES A DELAYED, ANTI-CFA/II, IgG ANTIBODY-SECRETING SPLEEN CELL RESPONSE

K. Sau, R.H. Reid, C. McQueen, E.C. Boedeker, R. Nellore, P. Dalal, and H.R. Bhagat

XENOBIOTIC POLYMERS AS VACCINE VEHICLES

L.G. Payne, S.A. Jenkins, A. Andrianov, R. Langer, and B.E. Roberts

ORAL IMMUNIZATION WITH DEHYDRATED LIPOSOMES CONTAINING STREPTOCOCCUS MUTANS GLUCOSYLTRANSFERASE (GTF) IN HUMANS

N.K. Childers, S.S. Zhang, and S.M. Michalek

FLUORESCENT LABELLING OF VIRUS, BACTERIA AND ISCOMS: IN VIVO SYSTEMIC AND MUCOSAL LOCALISATION PATTERNS

I. Claassen, A. Osterhaus, W. Boersma, M. Schellekens, and E. Claassen

BIOADHESIVE POLYMERS FOR ORAL DRUG DELIVERY

B. Rňhová, R.C. Rathi, P. Kopecková, and J. Kopecek

PRESENCE OF ANTIGEN-SPECIFIC LONG-TERM MEMORY CELLS IN SYSTEMIC LYMPHOID TISSUES AS WELL AS LOCALLY IN THE GUT LAMINA PROPRIA FOLLOWING ORAL IMMUNIZATION WITH CHOLERA TOXIN ADJUVANT

M. Vajdy and N. Lycke
CHOLERA TOXIN ENHANCES ANTIGEN PRESENTATION .................... 1501
A.K. Bromander, M. Kjerrulf, J. Holmgren, and N. Lycke

CHOLERA TOXIN INCREASES T LYMPHOCYTE RESPONSES TO UNRELATED ANTIGENS ......................................................... 1507
E. Hornquist and N. Lycke

MOLECULAR ENGINEERING OF CHOLERA TOXIN ..................... 1513
W.N. Burnette, H.R. Kaslow, and J. Moss

EFFECT OF CHOLERA TOXIN AND ITS B SUBUNIT ON INTESTINAL PERMEABILITY FOR OVALBUMIN ........................................... 1519
P.G. Pierre, E.G.M. Mbella, and J.-P. Vaerman

CHOLERA AND PERTUSSIS TOXINS, BUT NOT FORSKOLIN OR LT-B, ADJUVANT IgA ANTIBODY RESPONSES TO ORALLY ADMINISTERED ANTIGEN ................................................................. 1523
A.D. Wilson, A. Robinson, L. Irons, C.R. Stokes, and P.W. Bland

THE KINETICS OF AN INTESTINAL IMMUNE RESPONSE ............... 1527
P.J. van der Heijden, I.H. Muileman, and W. Stok

CHOLERA TOXIN MEDIATED CELLULAR IMMUNE RESPONSES AGAINST OVALBUMIN ADMINISTERED ORALLY ............................ 1531
J.C. Bowen, R.M. Reddy, and B.T. Rouse

INDUCTION OF TRANSMISSIBLE GASTROENTERITIS CORONAVIRUS SPECIFIC IMMUNE RESPONSES USING VECTORS WITH ENTERIC TROPISM ................................................................. 1535
L. Enjuanes, C. Smerdou, C.M. Sanchez, C. Suñé, S. Kelly, R. Curtiss III, and J.M. Torres

EXPRESSION AND STABILITY OF HERPES SIMPLEX VIRUS ANTIGENS IN SALMONELLA TYPHIMURIUM ................................ 1543

LACTOBACILLI: VEHICLES FOR ANTIGEN DELIVERY TO THE FEMALE UROGENITAL TRACT .................................................... 1547
C.M. Rush, L.M. Hafner, and P. Timms

NEW AND SAFE "ORAL" LIVE VACCINES BASED ON LACTOBACILLUS ................................................................................. 1553
E. Claassen, R. Van Winsen, M. Posno, and W.J.A. Boersma

xl
MUCOSAL AND SYSTEMIC RESPONSES FOLLOWING ENTERIC EXPOSURE TO LACTIC ACID BACTERIA


SPECIFIC ANTIBODY-PRODUCING CELLS IN HUMANS AFTER ORAL IMMUNIZATION WITH A RIBOSOMAL VACCINE RIBOMUNYL™

M.C. Bene, C. Zanin, P. Perrin, A.M. Perruchet, C.M. Molé, and G.C. Faure

INDUCTION OF IgA AND IgG ANTIBODIES IN VAGINAL FLUID, SERUM AND SALIVA FOLLOWING IMMUNIZATION OF GENITAL AND GUT ASSOCIATED LYMPHOID TISSUE

L.A. Bergmeier, L. Tao, A.J.M. Gearing, S. Adams, and T. Lehner

T CELL RESPONSES IN MACAQUES AFTER VAGINAL IMMUNIZATION WITH PARTICULATE SIV P27 ANTIGEN

C. Panagiotidi, L.A. Bergmeier, A.J.M. Gearing, S.E. Adams, and T. Lehner

MUCOSAL IMMUNIZATION WITH A RECOMBINANT ADENO-VIRUS VECTOR INDUCES LOCAL AND SYSTEMIC IMMUNITY AND PROTECTION FROM HERPES SIMPLEX VIRUS


Ig-SECRETING AND INTERFERON-γ-PRODUCING CELLS IN MICE MUCOSALLY IMMUNIZED WITH INFLUENZA VIRUS


CELL-MEDIATED IMMUNITY IN OWL MONKEYS FOLLOWING INOCULATION WITH HEPATITIS A VIRUS

L.V.S. Asher, R.A. Vassell, L.N. Binn, and Y.E. Polotsky

ORAL IMMUNIZATION AGAINST RESPIRATORY VIRUSES IN MICE

J. Nedrud, N. Sigmund, E. Brunschwig, and M. Lamm

ANTI-HSV-1 HERPES VACCINATION BY LUPIDON H: PRELIMINARY RESULTS

A. De Maria, P. Tundo, A. Romano, and P. Grima

NASOPHARYNGEAL AND SYSTEMIC HUMORAL RESPONSES INDUCED BY TRIVALENT ATTENUATED POLIOMYELITIS VACCINE IN NEWBORNS
