

TABLE OF CONTENTS

CONTENTS

- 2745 Commentary: Differential Roles for IL-12 in the Maintenance of Immune Responses in Infectious Versus Autoimmune Disease
Robert A. Seder, Brian L. Kelsall, and Dragana Jankovic
- 2749 IL-4 Induces Fas Resistance in B Cells
Linda C. Foote, Robert G. Howard, Ann Marshak-Rothstein, and Thomas L. Rothstein
- 2754 Apoptosis Induced by HIV Infection in H9 T Cells Is Blocked by ICE-Family Protease Inhibition but Not by a Fas(CD95) Antagonist
Jacqueline M. Glynn, David L. McElligott, and Donald E. Mosier
- 2759 Molecular Cloning of *TER1*, a Chemokine Receptor-Like Gene Expressed by Lymphoid Tissues
Monica Napolitano, Alessandra Zingoni, Giovanni Bernardini, Gaia Spinetti, Anna Nista, Clelia T. Storlazzi, Mariano Rocchi, and Angela Santoni
- 2764 CD40L Is Important for Induction of, but Not Response to, Costimulatory Activity: ICAM-1 as the Second Costimulatory Molecule Rapidly Up-Regulated by CD40L
Sanjay Shinde, Yan Wu, Yong Guo, Qingtian Niu, Jianchao Xu, Iqbal S. Grewal, Richard Flavell, and Yang Liu

CELLULAR IMMUNOLOGY AND IMMUNE REGULATION

- 2769 A Role for Phosphatidylinositol 3-Kinase in Generating T Cell Help for B Cell Growth and Differentiation
Kjersti M. Aagaard-Tillery and Diane F. Jelinek
- 2779 B Cell Responses to a Peptide Epitope: I. The Cellular Basis for Restricted Recognition
Anshu Agarwal, Surojit Sarkar, Consuelo Nazabal, G. Balasundaram, and Kanury V. S. Rao
- 2789 Expression and Presentation of Endogenous Mouse Mammary Tumor Virus Superantigens by Thymic and Splenic Dendritic Cells and B Cells
Carlos Ardavin, Gary Waanders, Isabel Ferrero, Fabienne Anjuère, Hans Acha-Orbea, and H. Robson MacDonald

- 2795 CD1c Restricts Responses of Mycobacteria-Specific T Cells: Evidence for Antigen Presentation by a Second Member of the Human CD1 Family
Evan M. Beckman, Agustín Melián, Samuel M. Behar, Peter A. Sieling, Delphi Chatterjee, Stephen T. Furlong, Ryoji Matsumoto, Jean Pierre Rosat, Robert L. Modlin, and Steven A. Porcelli
- 2804 Clonotypic Differences in Signaling from CD94 (kp43) on NK Cells Lead to Divergent Cellular Responses
Kathryn M. Brumbaugh, Juan J. Pérez-Villar, Christopher J. Dick, Renee A. Schoon, Miguel López-Botet, and Paul J. Leibson
- 2813 Distribution of IL-15 Receptor α -Chains on Human Peripheral Blood Mononuclear Cells and Effect of Immunosuppressive Drugs on Receptor Expression
Dong-Wan Chae, Yurika Nosaka, Terry B. Strom, and Włodzimierz Maslinski
- 2820 Durable Mixed Allogeneic Chimerism and Tolerance by a Nonlethal Radiation-Based Cytoreductive Approach
Yolonda L. Colson, Hua Li, Sallie S. Boggs, Kenneth D. Patrene, Peter C. Johnson, and Suzanne T. Ildstad
- 2830 Exposure to T Helper 2 Cytokines In Vivo Before Encounter with Antigen Selects for T Helper Subsets via Alterations in Antigen-Presenting Cell Function
Daniel J. Cua, Robert L. Coffman, and Stephen A. Stohlman
- 2837 Identification of Distinct Domains in CD40 Involved in B7-1 Induction or Growth Inhibition
Marni D. Goldstein and Tania H. Watts
- 2844 Activation of the Ras Signaling Pathway by the CD40 Receptor
Erich Gublins, Birgit Brenner, Klaus Schlottmann, Ursula Koppenhoefer, Otwin Linderkamp, K. Mark Coggeshall, and Florian Lang
- 2851 IL-12 p40 Messenger RNA Expression in Target Organs During Acute Graft-Versus-Host Disease: Possible Involvement of IFN- γ
Krikor Kichian, Frederick P. Nestel, Daniel Kim, Premysl Ponka, and Wayne S. Lapp
- 2857 Regulation of Superantigen-Induced T Cell Activation in the Absence and the Presence of MHC Class II
Peter A. Lando, Christina Olsson, Terje Kalland, Duane Newton, Malak Kotb, and Mikael Dohlsten
- 2864 Expression of trkB Neurotrophin Receptor During T Cell Development: Role of Brain-Derived Neurotrophic Factor in Immature Thymocyte Survival
Marella Maroder, Diana Bellavia, Daniela Meco, Maddalena Napolitano, Antonio Stigliano, Edoardo Alesse, Alessandra Vacca, Giuseppe Giannini, Luigi Frati, Alberto Gulino, and Isabella Scarpanti
- 2873 Extrathymic Origin of Human $\gamma\delta$ T Cells During Fetal Development
Laila D. McVay and Simon R. Carding
- 2883 Conversion of Low Antibody Responders into High Responders by Up-Regulating the T Cell Response to a Selective Epitope
John A. Mikszta and Byung S. Kim

- 2891 Differential Effects of a Monoclonal Antibody to *cis*-Urocanic Acid on the Suppression of Delayed and Contact Hypersensitivity Following Ultraviolet Irradiation
Angus M. Moodycliffe, Corazon D. Bucana, Margaret L. Kripke, Mary Norval, and Stephen E. Ullrich
- 2900 Requirements for Induction of Vitamin D-Mediated Gene Regulation in Normal Human B Lymphocytes
John W. Morgan, Deborah M. Morgan, Stephen R. Lasky, Dwayne Ford, Nicola Kouttab, and Abby L. Maizel
- 2909 Involvement of Fas Ligand and Fas-Mediated Pathway in the Cytotoxicity of Human Natural Killer Cells
Yoko Oshimi, Shoji Oda, Yoshiko Honda, Shigekazu Nagata, and Shunichi Miyazaki
- 2916 Role of $\alpha_5\beta_1$ Integrin in TGF- β 1-Costimulated CD8 $^+$ T Cell Growth and Apoptosis
Susan Rich, Nicole Van Nood, and Hon-Man Lee
- 2924 B7 Costimulation and Autoantigen Specificity Enable B Cells to Activate Autoreactive T Cells
Rita Roth, Tetsuo Nakamura, and Mark J. Mamula
- 2932 Activation of Human T Cell Lymphotropic Virus Type I-Infected T Cells Is Independent of B7 Costimulation
Christian Scholz, Gordon J. Freeman, Edward A. Greenfield, David A. Hafler, and Per Höllberg
- 2939 Supramolecular Complexes of MHC Class I, MHC Class II, CD20, and Tetraspan Molecules (CD53, CD81, and CD82) at the Surface of a B Cell Line JY
János Szöllősi, Václav Hořejší, László Bene, Pavla Angelisová, and Sándor Damjanovich
- 2947 Quantitative Analysis of the Influenza Virus-Specific CD4 $^+$ T Cell Memory in the Absence of B Cells and Ig
David J. Topham, Ralph A. Tripp, Ann Marie Hamilton-Easton, Sally R. Sarawar, and Peter C. Doherty
- 2953 The *flt3* Ligand Promotes the Survival of Primitive Hemopoietic Progenitor Cells with Myeloid as Well as B Lymphoid Potential: Suppression of Apoptosis and Counteraction by TNF- α and TGF- β
Ole P. Veiby, Frede W. Jacobsen, Li Cui, Stewart D. Lyman, and Sten E. W. Jacobsen
- 2961 CD95-Dependent Bystander Lysis Caused by CD4 $^+$ T Helper 1 Effectors
Ruduan Wang, Amy M. Rogers, Timothy L. Ratliff, and John H. Russell

MOLECULAR AND STRUCTURAL IMMUNOLOGY

- 2969 Ig Light Chains Are Secreted Predominantly as Monomers
Jeanne L. Dul, Sigal Aviel, Jeffrey Melnick, and Yair Argon
- 2976 Differential Binding Avidities of Human IgM for Staphylococcal Protein A Derive From Specific Germ-Line VH3 Gene Usage
Masayuki Hakoda, Naoyuki Kamatani, Sakura Hayashimoto-Kurumada, Gregg J. Silverman, Hisashi Yamanaka, Chihiro Terai, and Sadao Kashiwazaki

- 2982 Staphylococcal Protein A Simultaneously Interacts with Framework Region 1, Complementarity-Determining Region 2, and Framework Region 3 on Human V_H3-Encoded IgS
Kathleen N. Potter, Yucheng Li, and J. Donald Capra
- 2989 Multivalent Antibody Fragments with High Functional Affinity for a Tumor-Associated Carbohydrate Antigen
Michael Rheinnecker, Christina Hardt, Leodevico L. Ilag, Peter Kufer, Rudolf Gruber, Adolf Hoess, Andrei Lupas, Christine Rottenberger, Andreas Plückthun, and Peter Pack

HOST DEFENSE

- 2998 Human Dendritic Cells Phagocytose and Process *Borrelia burgdorferi*
Luis Filgueira, Frank O. Nestlé, Michael Rittig, Helen I. Joller, and Peter Groscurth
- 3006 IL-12 Gene Therapy Protects Mice in Lethal *Klebsiella* Pneumonia
Marc J. Greenberger, Steven L. Kunkel, Robert M. Strieter, Nicholas W. Lukacs, Jonathan Bramson, Jack Gauldie, Frank L. Graham, Mary Hitt, Jean M. Danforth, and Theodore J. Standiford
- 3013 Structure-Function Analysis of *Leishmania* Lipophosphoglycan: Distinct Domains That Mediate Binding and Inhibition of Endothelial Cell Function
John L. Ho, Hye-Kyung Kim, Philip M. Sass, Suhui He, Jiayuan Geng, Hong Xu, Baixin Zhu, Salvatore J. Turco, and Siu K. Lo
- 3021 A Highly Variable Region in Members of the Streptococcal M Protein Family Binds the Human Complement Regulator C4BP
Eskil Johnsson, Anette Thern, Björn Dahlbäck, Lars-Olof Hedén, Mats Wikström, and Gunnar Lindahl
- 3030 Multiple Melanoma-Associated Epitopes Recognized by HLA-A3-Restricted CTLs and Shared by Melanomas but Not Melanocytes
Arabella Mazzocchi, Walter J. Storkus, Catia Traversari, Paolo Tarsini, Markus J. Maeurer, Licia Rivoltini, Claudia Vegetti, Filiberto Belli, Andrea Anichini, Giorgio Parmiani, and Chiara Castelli
- 3039 Protection Against Lethal Viral Infection by Vaccination with Nonimmunodominant Peptides
Mohamed Oukka, Jean Claude Manuguerra, Nikos Livaditis, Sophie Tourdot, Nicole Riche, Isabelle Vergnon, Pavlos Cordopatis, and Konstadinos Kosmatopoulos
- 3046 Type 1 CD8⁺ T Cell Responses During Infection with the Helminth *Schistosoma mansoni*
João A. Pedras-Vasconcelos and Edward J. Pearce
- 3054 NK Cell Trafficking and Cytokine Expression in Splenic Compartments After IFN Induction and Viral Infection
Thais P. Salazar-Mather, Rika Ishikawa, and Christine A. Biron
- 3065 Protection Against Lethal Influenza Virus Encephalitis by Intranasally Primed CD8⁺ Memory T Cells
Philip G. Stevenson, Simon Hawke, and Charles R. M. Bangham
- 3074 Exhaustion of CTL Memory and Recrudescence of Viremia in Lymphocytic Choriomeningitis Virus-Infected MHC Class II-Deficient Mice and B Cell-Deficient Mice
A. Randrup Thomsen, J. Johansen, O. Marker, and J. Pravsgaard Christensen

- 3081 Growth Regulatory Pathways in Myeloma: Evidence for Autocrine Oncostatin M Expression
Jennifer J. Westendorf and Diane F. Jelinek

INFLAMMATION

- 3089 Tumor Necrosis Factor- α Modulates the Expression of Its p60 Receptor and Several Cytokines in Rat Tracheal Epithelial Cells
Thomas Bader and Paul Nettlesheim
- 3097 Characterization of Murine Lung Interstitial Macrophages in Comparison with Alveolar Macrophages In Vitro
Gabriela Franke-Ullmann, Carsten Pförtner, Petra Walter, Christiane Steinmüller, Marie-Luise Lohmann-Matthes, and Lester Kobzik
- 3105 Sequential Morphologic Events During Apoptosis of Human Neutrophils: Modulation by Lipoxygenase-Derived Eicosanoids
Marie-Josée Hébert, Tomoko Takano, Harry Holthöfer, and Hugh R. Brady
- 3116 Diminished Production of Prostaglandin E₂ by Monocytes of Newborns Is Due to Altered Fatty Acid Membrane Content and Reduced Cyclooxygenase Activity
Finbarr J. Murphy and Denis J. Reen
- 3122 Bradykinin Stimulates Alveolar Macrophages to Release Neutrophil, Monocyte, and Eosinophil Chemotactic Activity
Etsuro Sato, Sekiya Koyama, Hiroshi Nomura, Keishi Kubo, and Morie Sekiguchi
- 3130 Regulation of Sialoadhesin Expression on Rat Macrophages: Induction by Glucocorticoids and Enhancement by IFN- β , IFN- γ , IL-4, and Lipopolysaccharide
Timo K. van den Berg, Irma van Die, Chantal Renardel de Lavalette, Ed A. Döpp, Larissa D. Smit, Peter H. van der Meide, Fred J. H. Tilders, Paul R. Crocker, and Christine D. Dijkstra
- 3139 Zinc Enhances Lipopolysaccharide-Induced Monokine Secretion by Alteration of Fluidity State of Lipopolysaccharide
Nele Wellinghausen, Andra B. Schromm, Ulrich Seydel, Klaus Brandenburg, Jürgen Luhm, Holger Kirchner, and Lothar Rink

CLINICAL IMMUNOLOGY

- 3148 Molecular Analysis of Stimulatory Anti-Thyrotropin Receptor Antibodies (TSAbs) Involved in Graves' Disease: Isolation and Reconstruction of Antibody Genes, and Production of Monoclonal TSAbs
Takashi Akamizu, Fumihiko Matsuda, Jyoji Okuda, Hua Li, Hidetoshi Kanda, Takeshi Watanabe, Tasuku Honjo, and Toru Mori
- 3153 Reduced Susceptibility to Collagen-Induced Arthritis in Mice Deficient in Intercellular Adhesion Molecule-1
Daniel C. Bullard, Leigh A. Hurley, Isabel Lorenzo, Laurel M. Sly, Arthur L. Beaudet, and Nigel D. Staite
- 3159 Anti-CD40 Ligand Antibody Treatment Prevents the Development of Lupus-Like Nephritis in a Subset of New Zealand Black \times New Zealand White Mice: Response Correlates with the Absence of an Anti-Antibody Response
Geoffrey S. Early, Weiguo Zhao, and Christopher M. Burns

- 3165 In Vivo Properties of an IgG3-IL-2 Fusion Protein: A General Strategy for Immune Potentiation
Eric T. Harvill, Jennifer M. Fleming, and Sherie L. Morrison
- 3171 Induction of Blister-Causing Antibodies by a Recombinant Full-Length, but Not the Extracellular, Domain of the Pemphigus Vulgaris Antigen (Desmoglein 3)
Omeed Memar, Burgess Christensen, Srinivasan Rajaraman, Randall Goldblum, Stephen K. Tyring, Miriam M. Brysk, Daniel J. McCormick, Haissam El Zaim, Ji-Lao Fan, and Bellur S. Prabhakar
- 3178 Attenuation of Collagen-Induced Arthritis in 55-kDa TNF Receptor Type 1 (TNFR1)-IgG1-Treated and TNFR1-Deficient Mice
Lucia Mori, Sabine Iselin, Gennaro De Libero, and Werner Lesslauer
- 3183 Persistent Clonal Expansions of Peripheral Blood CD4⁺ Lymphocytes in Chronic Inflammatory Bowel Disease
Christopher S. Probert, Andreas Chott, Jerrold R. Turner, Lawrence J. Saubermann, Anthony C. Stevens, Kujtim Bodinaku, Charles O. Elson, Steven P. Balk, and Richard S. Blumberg
- 3192 B-Cell Activation in Vitro by Helper T Cells Specific to Region α 146–162 of *Torpedo californica* Nicotinic Acetylcholine Receptor
Jana S. Rosenberg, Minako Oshima, and M. Zouhair Atassi
- 3200 Autoantibodies to Ribosomal P Antigens with Immune Complex Glomerulonephritis in SJL Mice Treated with Pristane
Minoru Satoh, Kimberly J. Hamilton, Ajay K. Ajmani, Xingwen Dong, Jingsong Wang, Yashpal S. Kanwar, Westley H. Reeves
- 3207 Author Index