4493 IN THIS ISSUE

LETTERS TO THE EDITOR

4495 Comment on “Reassessment of the Role of Mut S Homolog 5 in Ig Class Switch Recombination Shows Lack of Involvement in cis- and trans-Switching”
Hideharu Sekine, Ricardo C. Ferreira, Quang Pan-Hammerström, Lennart Hammerström, Gary S. Gilkeson, and Timothy W. Behrens

4496 Response to Comment on “Reassessment of the Role of Mut S Homolog 5 in Ig Class Switch Recombination Shows Lack of Involvement in cis- and trans-Switching”
Jeroen E. J. Guikema, Carol E. Schrader, Stephen P. Baker, Winfried Edelmann, and Janet Stavnezer

4497 Comment on “Experimental Extracorporeal Photopheresis Inhibits the Sensitization and Effector Phases of Contact Hypersensitivity via Two Mechanisms: Generation of IL-10 and Induction of Regulatory T Cells”
Roberta Rizzo, Marina Stignani, Loredana Melchiorri, and Olavio R. Baricordi

BRIEF REVIEWS

4499 Myeloid-Derived Suppressor Cells: Linking Inflammation and Cancer
Suzanne Ostrand-Rosenberg and Pratima Sinha

CUTTING EDGE

4507 Cutting Edge: Lung Mucosal Th17-Mediated Responses Induce Polymeric Ig Receptor Expression by the Airway Epithelium and Elevate Secretory IgA Levels
Zeina Jaffar, Maria E. Ferrini, Lou A. Herritt, and Kevan Roberts

4512 Cutting Edge: IL-2 Immune Complexes As a Therapy for Persistent Virus Infection
Michael J. Molloy, Weijun Zhang, and Edward J. Usherwood

4516 Cutting Edge: A Critical Role of B and T Lymphocyte Attenuator in Peripheral T Cell Tolerance Induction
Xikui Liu, Maria Alexiou, Natalia Martin-Orozco, Yeonseok Chung, Roza I. Nurieva, Li Ma, Qiang Tian, George Kollias, Sijie Lu, Daniel Graf, and Chen Dong

On the cover: Dendritic cells (DC) infected with Leishmania major are stained with Giemsa. The dark purple large mass in each DC is the host cell nucleus and smaller dots are the nuclei of intracellular L. major. DM-deficient BALB/c mice are resistant to L. major infections whereas the wild-type mice are susceptible even though the parasite can infect the wild-type and DM−/− DC in a comparable manner. Kamala, T., and N. Nanda. 2009. Protective response to Leishmania major in BALB/c mice requires antigen processing in the absence of DM. J. Immunol. 182: 4882–4890.
IL-22-Dependent Attenuation of T Cell-Dependent (ConA) Hepatitis in Herpes Virus Entry Mediator Deficiency
Christian Wahl, Ursula Maria Wegenka, Frank Leithäuser, Reinhold Schirnbeck, and Jörg Reimann

Early Hematopoietic Zinc Finger Protein Prevents Tumor Cell Recognition by Natural Killer Cells
Rosanna La Roca, Mariateresa Fulciniti, Tadeppally Lakshmikanth, Maria Mesuraca, Talib Hassan Ali, Valeria Mazzei, Nicola Amodio, Lucio Catalano, Bruno Rotoli, Ouasheek Ouerfelli, Michele Greco, Elio Gulletta, Heather M. Bond, Giovanni Morrone, Soldano Ferrone, and Ennio Carbone

Induction of Tumor Cell Apoptosis or Necrosis by Conditional Expression of Cell Death Proteins: Analysis of Cell Death Pathways and In Vitro Immune Stimulatory Potential
Christine Lohmann, Andreas Muschaweck, Susanne Kirschnek, Luise Jennen, Hermann Wagner, and Georg Häcker

FcyRIIA and FcyRIIB Mediate Nuclear Factor Activation through Separate Signaling Pathways in Human Neutrophils
Erick García-García, Georgina Nieto-Castañeda, Melissa Ruiz-Saldaña, Nancy Mora, and Carlos Rauel

Costimulation of Dendritic Epidermal γδ T Cells by a New NKG2D Ligand Expressed Specifically in the Skin
Michael I. Whang, Nadia Guerra, and David H. Rauel

A Single-Chain H-2Dβ Molecule Presenting an Influenza Virus Nucleoprotein Epitope Shows Enhanced Ability at Stimulating CD8+ T Cell Responses In Vivo
Michael J. Palmowski, Mathew Parker, Kasubik Choudhuri, Christopher Chiu, Margaret F. C. Callan, P. Anton van der Merwe, Vincenzo Cerundolo, and Keith G. Gould

NK Cell Responsiveness Is Tuned Commensurate with the Number of Inhibitory Receptors for Self-MHC Class I: The Rheostat Model
Nathalie T. Joncker, Nadine C. Fernandez, Emmanuel Treiner, Eric Vivier, and David H. Rauel

Thymic OX40 Expression Discriminates Cells Undergoing Strong Responses to Selection Ligands
Mark Klinger, Joong Kyu Kim, Stephen A. Chmura, Andrea Barczak, David J. Erle, and Nigel Killeen

Early Infection Termination Affects Number of CD8+ Memory T Cells and Protective Capacities in Listeria monocytogenes-Infected Mice upon Rechallenge
Kuo-En Tseng, Cheng-Yu Chung, Weng Siong H'ng, and Shih-Lien Wang

The Amino Acid Sequences Flanking an Antigenic Determinant Can Strongly Affect MHC Class I Cross-Presentation without Altering Direct Presentation
Xueying Ma, Amparo Serna, Ren-Huan Xu, and Lui J. Sigal

Rabbit Polyclonal Anti-Mouse Thymocyte Globulin Administration Alters Dendritic Cell Profile and Function in NOD Mice to Suppress Diabetogenic Responses
Yanfei Huang, Matthew Parker, Changqing Xia, Ruihua Peng, Clive Wasserfall, Tracy Clarke, Lizhen Wu, Tayseer Choudhry, Martha Campbell-Thompson, John Williams, Michael Clare-Salzler, Mark A. Askin, and Karl L. Womer

The Aβ Adenosine Receptor Impairs the Maturation and Immunogenicity of Dendritic Cells
Jeffrey M. Wilson, William G. Ross, Oma N. Aghai, Renea Frazier, Robert A. Figler, Jayson Rieger, Joel Linden, and Peter B. Ernst

Calcitriol Suppresses Antiretinal Autoimmunity through Inhibitory Effects on the Th17 Effector Response
Jun Tang, Ru Zhou, Dror Luger, Wei Zhu, Phyllis B. Silver, Rafael S. Grajewski, Shao-Bo Su, Chi-Chao Chan, Luciano Adorini, and Rachel R. Caspi

Activin A Promotes the TGF-β-Induced Conversion of CD4+CD25+ T Cells into Foxp3+ Induced Regulatory T Cells
Samuel Huber, Felix R. Stahl, Jörg Schrader, Stefan Lüth, Katrin Presser, Antonella Carambia, Richard A. Flavell, Sabine Werner, Manfred Blessing, Johannes Herkel, and Christoph Schramm

Selective Requirement for c-Myc at an Early Stage of Vα14i NKT Cell Development
Marvin P. Mycko, Isabel Ferrero, Anne Wilson, Wei Jiang, Teresa Bianchi, Andreas Trumpp, and H. Robson MacDonald
A Positive Feedback Loop of IL-21 Signaling Provoked by Homeostatic CD4+ CD25− T Cell Expansion Is Essential for the Development of Arthritis in Autoimmune K/BxN Mice
Eunhye Jang, Shin-Hye Cho, Hyunjoo Park, Doo-Jin Paik, Jung Mogg Kim, and Jeehee Youn

Langerhans Cells Are Not Required for the CD8 T Cell Response to Epidermal Self-Antigens
Laura S. Burch, Benjamin E. Rich, and Kristin A. Hogquist

Maintenance of Peripheral Tolerance through Controlled Tissue Homing of Antigen-Specific T Cells in K14-mOVA Mice
Teresa Bianchi, Laura B. Pincus, Marc-André Wurbel, Benjamin E. Rich, Thomas S. Kupper, Robert C. Fuhlbrigge, and Marianne Boes

Tumor Recognition and Self-Recognition Induce Distinct Transcriptional Profiles in Antigen-Specific CD4 T Cells
Derese Getnet, Charles H. Maris, Edward L. Hipkiss, Joseph F. Grosso, Timothy J. Harris, Hung-Rong Yen, Tullia C. Bruno, Satoshi Wada, Adam Adler, Robert W. Georgantas, Chunfa Jie, Monica V. Goldberg, Drew M. Pardoll, and Charles G. Drake

Inducible MHC Class II Expression by Mast Cells Supports Effector and Regulatory T Cell Activation

Inositol 1,4,5-Trisphosphate 3-Kinase B Is a Negative Regulator of BCR Signaling That Controls B Cell Selection and Tolerance Induction
Andrew T. Miller, Daniel R. Beisner, Daorong Liu, and Michael P. Cooke

Nerve Growth Factor and Neurotrophin-3 Mediate Survival of Pulmonary Plasma Cells during the Allergic Airway Inflammation
Melanie Abrams, Michael Wegmann, Verena Fokuhl, Sanchoita Sonar, Elke Olga Luger, Sebastian Kerzel, Andreas Radbruch, Harald Renz, and Michael Zemlin

Superantigen- and TLR-Dependent Activation of Tonsillar B Cells after Receptor-Mediated Endocytosis
Johannes Jendoflin, Matthias Morgenstern, Maria Laura A. Perez Vidakovics, Michael Carlson, Hakon Leffler, Lars-Olof Cardell, and Kristian Riesbeck

The Generation of Influenza-Specific Humoral Responses Is Impaired in ST6Gal I-Deficient Mice
Junwei Zeng, Hye Mee Joo, Bheemreddy Rajini, Jens P. Wrammert, Mark Y. Sanger, and Thandi M. Onami

Adaptive Immune Response in JAM-C-Deficient Mice: Normal Initiation but Reduced IgG Memory
Claudia Zimmerli, Boris P. L. Lee, Gaby Palmer, Cem Gabay, Ralf Adams, Michel Aurrand-Lions, and Beat A. Imhof

IL-9 Promotes IL-13-Dependent Paneth Cell Hyperplasia and Up-Regulation of Innate Immunity Mediators in Intestinal Mucosa
Valérie Steenwinckel, Jamila Louahed, Muriel M. Lemaire, Caroline Sommereyns, Guy Warnier, Andrew McKenzie, Frank Brombacher, Jacques Van Snick, and Jean-Christophe Renaud

Statins Impair CD1d-Mediated Antigen Presentation through the Inhibition of Prenylation

Association of HIV-Specific and Total CD8+ T Memory Phenotypes in Subtype C HIV-1 Infection with Viral Set Point
Wendy A. Burgers, Catherine Riou, Mandla Mlotshwa, Pholo Maenetje, Debra de Assis Rosa, Jason Brenchley, Koleka Misana, Daniel C. Douek, Richard Koup, Mario Roederer, Guy de Bruyn, Salim Ahdool Karim, Carolyn Williamson, Clive M. Gray, and the CAPRISA 002 Acute Infection Study Team

Drak2 Is Upstream of p70S6 Kinase: Its Implication in Cytokine-Induced Islet Apoptosis, Diabetes, and Islet Transplantation
Jianning Mao, Hongyu Luo, Bing Han, Richard Bertrand, and Jianguing Wu

CD30 Is Required for CCL21 Expression and CD4 T Cell Recruitment in the Absence of Lymphotoxin Signals
Vasileios Bekiaris, Fabrina Gaspal, Mi-Yeon Kim, David R. Withers, Fiona M. McConnell, Graham Anderson, and Peter J. L. Lane
Molecular and Structural Immunology

4776 Interaction of Bap31 and MHC Class I Molecules and Their Traffic Out of the Endoplasmic Reticulum
Fumiyoshi Abe, Nancy Van Prooyen, John J. Ladasky, and Michael Edidin

4784 Natural Lipid Ligands Associated with Human CD1d Targeted to Different Subcellular Compartments
Weiming Yuan, Suk-Jo Kang, James E. Evans, and Peter Cresswell

Liza B. John, Simon Yoong, and Alister C. Ward

4800 Brief Residence at the Plasma Membrane of the MHC Class I-Related Chain B Is Due to Clathrin-Mediated Cholesterol-Dependent Endocytosis and Shedding
Sonia Aguera-Gonzalez, Philippe Boutet, Hugh T. Reyburn, and Mar Valés-Gómez

4809 Steric Hindrance and Fast Dissociation Explain the Lack of Immunogenicity of the Minor Histocompatibility HA-1Arg Null Allele
Eric Spierings, Stéphanie Gras, Jean-Baptiste Reiser, Bregje Mommaas, Mathilde Almekinders, Michel G. D. Kester, Anne Chouquet, Madalen Le Gorrec, Jan W. Drijfhout, Ferry Osendarp, Dominique Housse, and Eli Goulmy

4817 Trimolecular Complex Formation of IgE, FcεRI, and a Recombinant Nonanaphylactic Single-Chain Antibody Fragment with High Affinity for IgE

4830 N-Glycosylation Enhances Presentation of a MHC Class I-Restricted Epitope from Tyrosinase
Marina Ostankovitch, Michelle Altrich-VanLith, Valentina Robila, and Victor H. Engelhard

4836 Thrombin Binding Predicts the Effects of Sequence Changes in a Human Monoclonal Antiphospholipid Antibody on Its In Vivo Biologic Actions
Ian Giles, Charis Pericleous, Xiaowei Liu, Jasmine Ehsanullah, Lindsey Clarke, Paul Brogan, Marvin Newton-West, Robert Suerlich, Anastasia Lambrianides, Pojen Chen, David Latchman, David Ienber, Silvia Pierangeli, and Anisur Rahman

4844 Critical and Multiple Roles for the CD3ε Intracytoplasmic Tail in Double Negative to Double Positive Thymocyte Differentiation
Jean-Francois Brodeur, Samantha Li, Maria da Silva Martins, Louise Larose, and Vibhuti P. Dave

HOST DEFENSE

4854 Selective Transcriptional Down-Regulation of Human Rhinovirus-Induced Production of CXCL10 from Airway Epithelial Cells via the MEK1 Pathway
Raza S. Zabeer, Rommy Koetzler, Neil S. Holden, Shabina Wiebler, and David Proud

4865 A Protective Role for Dengue Virus-Specific CD8+ T Cells
Lauren E. Yauch, Raphaël M. Zellweger, Maya F. Kotturi, Afrina Qutubuddin, John Sidney, Bjoern Peters, Tyler R. Prestwood, Alessandro Sette, and Sujan Shresta

4874 Host-Derived Interleukin-1α Is Important in Determining the Immunogenicity of 3-Methylcholanthrene Tumor Cells
Moshe Elkabetz, Yakov Krelin, Shabar Dotan, Adelheid Cerwenka, Angel Porgador, Rachel G. Lichtenstein, Malka R. White, Margot Zoller, Yoichizo Iwakura, Charles A. Dinarello, Elena Voronov, and Ron N. Apte

4882 Protective Response to Leishmania major in BALB/c Mice Requires Antigen Processing in the Absence of DM
Tirumalai Kamala and Navreet K. Nanda

4891 Group V Secretory Phospholipase A2 Modulates Phagosome Maturation and Regulates the Innate Immune Response against Candida albicans
Barbara Balestrieri, Akiko Maekawa, Wei Xing, Michael H. Gelb, Howard R. Katz, and Jonathan P. Arm

4899 Differential Requirements for Protection against Mucosal Challenge with Francisella tularensis in the Presence versus Absence of Cholera Toxin B and Inactivated F. tularensis
Constantine Bitsaktsis, Deepak B. Rawool, Ying Li, Nittin V. Kurkure, Bibiana Iglesias, and Edmund J. Goselin
The NF-κB RelA Subunit Confers Resistance to *Leishmania major* by Inducing Nitric Oxide Synthase 2 and Fas Expression but Not Th1 Differentiation
Setsuko Mise-Omata, Enushi Kuroda, Tsutomu Sugiura, Uki Yamashita, Yuichi Obata, and Takehiro S. Doi

A Novel Hybrid Yeast-Human Network Analysis Reveals an Essential Role for FNBP1L in Antimicrobial Autophagy
Alan Huett, Aylin Ng, Zhifang Cao, Petric Kubała, Masaaki Komatsu, Mark J. Daly, Daniel K. Pedolsky, and Ramnik J. Xavier

Important Role for CC Chemokine Ligand 2-Dependent Lung Mononuclear Phagocyte Recruitment to Inhibit Sepsis in Mice Infected with *Streptococcus pneumoniae*
Christine Winters, Wiebke Herbold, Regina Maus, Florian Längner, David E. Briles, James C. Paton, Tobias Welte, and Ulrich A. Maus

Requisite Role for the Dectin-1 β-Glucan Receptor in Pulmonary Defense against *Aspergillus fumigatus*
Jessica L. Werner, Allison E. Metz, Dawn Horn, Trenton R. Schoeh, Matthew M. Hewitt, Lisa M. Schwiebert, Ines Faro-Trindade, Gordon D. Brown, and Chad Steele

Lipocalin 2 Is Required for Pulmonary Host Defense against *Klebsiella* Infection
Yowane R. Chan, Jessica S. Liu, Derek A. Pociask, Mingquan Zheng, Timothy A. Mietzner, Thorsten Berger, Tak W. Mak, Matthew C. Clifton, Roland K. Strong, Prabir Ray, and Jay K. Kolls

**INFLAMMATION**

Contribution of Adenosine A2B Receptors to Inflammatory Parameters of Experimental Colitis
Julia-Stefanie Frick, Christopher F. MacManus, Melanie Scully, Louise E. Glover, Holger K. Eltzschig, and Sean P. Colgan

Heat Shock Protein 96 Is Elevated in Rheumatoid Arthritis and Activates Macrophages Primarily via TLR2 Signaling
Qi-Quan Huang, Rudina Sobkoviak, Angela R. Jackbeck-Clark, Bo Shi, Arthur M. Mandelin II, Paul Peter Tak, G. Kenneth Haines III, Christopher V. Nicchitta, and Richard M. Pope

Formyl Peptide Receptor-Like 2 Is Expressed and Functional in Plasmacytoid Dendritic Cells, Tissue-Specific Macrophage Subpopulations, and Eosinophils
Thalie Devosse, Aude Guillabert, Nicky D’Haene, Alix Berton, Patricia De Nadai, Sophie Noel, Maryse Brait, Jean-Denis Franssen, Silvano Sozzani, Isabelle Salom, and Marc Parmentier

Role of the Heparan Sulfate Proteoglycan Syndecan-1 (CD138) in Delayed-Type Hypersensitivity
Behzad Kharabi Masouleh, Gerdy B. Ten Dam, Martin K. Wild, Ruth Seeliger, Johan van der Vlag, Angelique L. Rops, Frank G. Echtler, Dietmar Vestweber, Tain H. van Kuppevelt, Ludwig Kiesel, and Martin Götze

MicroRNA-21 Is Up-Regulated in Allergic Airway Inflammation and Regulates IL-12p35 Expression
Thomas X. Lu, Ariel Munitz, and Marc E. Rothenberg

IL-20 Is Regulated by Hypoxia-Inducible Factor and Up-Regulated after Experimental Ischemic Stroke
Wei-Yu Chen and Ming-Shi Chang

Functional Blocking Monoclonal Antibodies against IL-12p40 Homodimer Inhibit Adoptive Transfer of Experimental Allergic Encephalomyelitis
Susanta Mondal, Avik Roy, and Kalipada Pahan

The Pattern Recognition Receptor CD36 Is a Chondrocyte Hypertrophy Marker Associated with Suppression of Catabolic Responses and Promotion of Repair Responses to Inflammatory Stimuli

The Atypical Chemokine Receptor D6 Contributes to the Development of Experimental Colitis
Yvonne Bordot, Chris A. H. Hansell, David P. Sester, Mairi Clarke, Allan M. Mowat, and Robert J. B. Nibbs

A Novel and Critical Role for Tyrosine 663 in Platelet Endothelial Cell Adhesion Molecule-1 Trafficking and Transendothelial Migration
Bidisha Dasgupta, Eric Dufour, Zaha Mamdouh, and William A. Muller
P2X7 Receptor-Stimulated Secretion of MHC Class II-Containing Exosomes Requires the ASC/NLRP3 Inflammasome but Is Independent of Caspase-1
Yan Qu, Lakshmi Ramachandra, Susanne Mohr, Luigi Franchi, Clifford V. Harding, Gabriel Nunez, and George R. Dubyak

p53 Attenuates Lipopolysaccharide-Induced NF-κB Activation and Acute Lung Injury
Gang Liu, Young-Jun Park, Yoko Tsuruta, Emmanuel Lorne, and Edward Abraham

Mitocryptide-2: Purification, Identification, and Characterization of a Novel Cryptide That Activates Neutrophils
Hidehito Mukai, Tetuo Seki, Hiroko Nakano, Yoshinori Hokari, Toshifumi Takao, Maanori Kawanami, Hiroaki Tsukagoshi, Hirokazu Kimura, Yoshiaki Kuo, Yasutugu Shimonishi, Yoshiaki Nishi, and Eiisuke Munekata

Adaptor Proteins and Ras Synergistically Regulate IL-1-Induced ADAMTS-4 Expression in Human Chondrocytes
Rasheed Ahmad, Judith Sylvestre, Muhsaq Ahmad, and Muhammad Zafarullah

Bruton’s Tyrosine Kinase Is Involved in miR-346-Related Regulation of IL-18 Release by Lipopolysaccharide-Activated Rheumatoid Fibroblast-Like Synoviocytes
Ghada Alsaleh, Guillaume Suffert, Noha Semaan, Tom Juncker, Laurent Frenzel, Jacques-Eric Gottenberg, Jean Sibilla, Sébastien Peffer, and Dominique Wachsmann

Acidic Mammalian Chitinase Regulates Epithelial Cell Apoptosis via a Chitinolytic-Independent Mechanism
Dominik Hartl, Chuan Hua He, Babara Koller, Carla A. Da Silva, Yasushi Kobayashi, Chun Geun Lee, Richard A. Flavell, and Jack A. Elias

Pathogenesis of Steroid-Resistant Airway Hyperresponsiveness: Interaction between IFN-γ and TLR4/MyD88 Pathways
Ming Yang, Rakesh K. Kumar, and Paul S. Foster

Induction of Airway Hyperreactivity by IL-25 Is Dependent on a Subset of Invariant NKT Cells Expressing IL-17RB
Philippe Stock, Vincent Lombardi, Viola Kohlrautz, and Omid Akbari

A Protective Role for C5a in the Development of Allergic Asthma Associated with Altered Levels of B7-H1 and B7-DC on Plasmacytoid Dendritic Cells
Xun Zhang, Ian P. Lewkowich, Gabriele Köhl, Jennifer R. Clark, Marsha Wills-Karp, and Jörg Köhl

Clinical Immunology

HLA-DQ8 (DQB1*0302)-Restricted Th17 Cells Exacerbate Experimental Autoimmune Encephalomyelitis in HLA-DR3-Transgenic Mice
Ashutosh Mangalam, David Luckey, Eati Basal, Megan Jackson, Michele Smart, Moses Rodriguez, and Chella David

Enrichment of Human CD4+ Vα24/Vβ11 Invariant NKT Cells in Intrahepatic Malignant Tumors
Gabriel Bricard, Valerie Casson, Estelle Desveere, Hanifa Bouzourene, Catherine Barbey, Nathalie Rufer, Jin S. Im, Pedro M. Alves, Olivier Martinet, Nermin Halkic, Jean-Charles Cerottini, Pedro Romero, Steven A. Porcelli, H. Robson MacDonald, and Daniel E. Speiser

Corrections

Author Index