IN THIS ISSUE

PILLARS OF IMMUNOLOGY

1503 Conveying the Message: Identification of Ig-α and Ig-β as Components of the B Cell Receptor Complex
James Hagman

1505 Pillars Article: Molecular components of the B-cell antigen receptor complex of the IgM class. 1990.
Joachim Hombach, Takeshi Tsubata, Lise Leclercq, Heike Stappert, and Michael Reth

CUTTING EDGE

1509 Cutting Edge: SWI/SNF Mediates Antisense Igh Transcription and Locus-Wide Accessibility in B Cell Precursors
Oleg A. Osipovich, Ramesh Subrahmanyam, Steven Pierce, Ranjan Sen, and Eugene M. Oltz

1514 Cutting Edge: B220+CCR9+ Dendritic Cells Are Not Plasmacytoid Dendritic Cells but Are Precursors of
Conventional Dendritic Cells
Elodie Segura, June Wong, and José A. Villadangos

1518 Cutting Edge: Regulatory T Cells Directly Suppress B Cells in Systemic Lupus Erythematosus
Noriko Iikuni, Elaine V. Lourenço, Bevra H. Hahn, and Antonio La Cava

1523 Cutting Edge: Limiting MHC Class II Expression to Dendritic Cells Alters the Ability to Develop
Th2-Dependent Allergic Airway Inflammation
Naiqian Niu, Terri Lauter, Robert J. Homer, and Lauren Cohn

1528 Cutting Edge: Necrosis Activates the NLRP3 Inflammasome
Hanfen Li, Aditya Ambade, and Fabio Re

CELLULAR IMMUNOLOGY AND IMMUNE REGULATION

1533 Expression of Diabetes-Associated Genes by Dendritic Cells and CD4 T Cells Drives the Loss of
Tolerance in Nonobese Diabetic Mice
Emma E. Hamilton-Williams, Xavier Martinez, Jan Clark, Sarah Howlett, Kara M. Hunter, Daniel B. Rainbow, Li Wen,
Mark J. Shlomchik, Jonathan D. Katz, Georg F. Beilback, Linda S. Wicker, and Linda A. Sherman

On the cover: Many of the 355 genes regulated in common by IL-12 and type I IFN during CD8 T cell differentiation
development change expression in response to just Ag and B7-1 within 24 hours but then revert to naive levels in the absence of a third
signal provided by one of the cytokines. Agarwa, P., A. Raghavan, S. L. Nandiwada, J. M. Curtsinger, P. R. Bohjanen,
D. L. Mueller, and M. F. Mescher. 2009. Gene regulation and chromatin remodeling by IL-12 and type I IFN in
Diminished Intracellular Invariant Chain Expression after Vaccinia Virus Infection
Nan Wang, Ekkehard Weber, and Janice S. Blum

Parameters Underlying Distinct T Cell-Dependent Polysaccharide-Specific IgG Responses to an Intact Gram-Positive Bacterium versus a Soluble Conjugate Vaccine
Jesus Colino, Gouri Chattopadhyay, Gautam Sen, Quanyi Chen, Andrew Lees, David H. Canaday, Anatoly Rubtsov, Paul Torres, and Clifford M. Snapper

Expression of a CD200 Transgene Is Necessary for Induction but Not Maintenance of Tolerance to Cardiac and Skin Allografts
Reginald M. Gorczynski, Zhiqi Chen, William He, Iman Khatri, Yang Sun, Kai Yu, and Ivo Boudakov

Murine B Cell Response to TLR7 Ligands Depends on an IFN-β Feedback Loop

Expression of a CD200 Transgene Is Necessary for Induction but Not Maintenance of Tolerance to Cardiac and Skin Allografts
Reginald M. Gorczynski, Zhiqi Chen, William He, Iman Khatri, Yang Sun, Kai Yu, and Ivo Boudakov

Murine B Cell Response to TLR7 Ligands Depends on an IFN-β Feedback Loop

Infection with a Helminth Parasite Attenuates Autoimmunity through TGF-β-Mediated Suppression of Th17 and Th1 Responses
Kevin P. Walsh, Miriam T. Brady, Conor M. Finlay, Louis Boon, and Kingston H. G. Mills

Processing of Two Latent Membrane Protein 1 MHC Class I Epitopes Requires Tripeptidyl Peptidase II Involvement

IFN Regulatory Factor 4 Regulates the Expression of a Subset of Th2 Cytokines
Ayele-Nati N. Ahyi, Hua-Chen Chang, Alexander L. Den, Stephen L. Nutt, and Mark H. Kaplan

An Atopy-Associated Polymorphism in the Ectodomain of the IL-4Rα Chain (V50) Regulates the Persistence of STAT6 Phosphorylation
Andrew Q. Ford, Nicola M. Heller, Linda Stephen, Mark R. Boothby, and Achsah D. Keegan

MicroRNA-98 and let-7 Confer Cholangiocyte Expression of Cytokine-Inducible Src Homology 2-Containing Protein in Response to Microbial Challenge
Guoku Hu, Rui Zhou, Jun Li, Ai-Yu Gong, Alex N. Eischeid, Jared W. Dittman, and Xian-Ming Chen

Anti-CD40 Monoclonal Antibody Synergizes with CTLA4-Ig in Promoting Long-Term Graft Survival in Murine Models of Transplantation
Christopher R. Gilson, Zvonimir Milas, Shivaprabha Bangappa, Diane Hollenbaugh, Thomas C. Pearson, Mandy L. Ford, and Christian P. Larsen

Tissue-Specific Abundance of Regulatory T Cells Correlates with CD8+ T Cell Dysfunction and Chronic Retrovirus Loads
Lara Myers, Ronald J. Meser, Aaron B. Carnody, and Kim J. Hasenkug

Incorporation of NKT Cell-Activating Glycolipids Enhances Immunogenicity and Vaccine Efficacy of Mycobacterium bovis Bacillus Calmette-Guérin
Manjunatha M. Venkataswamy, Andres Baena, Michael F. Goldberg, Gabriel Bricard, Jin S. Im, John Chan, Faye Reddington, Gurdyal S. Saba, William R. Jacobs, Jr., and Steven A. Porcelli

A Central Role for Transcription Factor C/EBP-β in Regulating CD1d Gene Expression in Human Keratinocytes
Hashmat Sikder, Yuning Zhao, Anna Babato, Andre Chapoval, Padmina Gade, Ishwar S. Singh, Dhananjaya V. Kalvakoon, Peter F. Johnson, and Anthony A. Gaspari

Fas Apoptosis Inhibitory Molecule Enhances CD40 Signaling in B Cells and Augments the Plasma Cell Compartment
Hiroaki Kaku and Thomas L. Rothstein
Uncoordinated 119 Protein Controls Trafficking of Lck via the Rab11 Endosome and Is Critical for Immunological Synapse Formation
Magdalena M. Gorska, Qiaoling Liang, Zunayet Karim, and Rafeul Alam

Palmitoylation-Dependent Plasma Membrane Transport but Lipid Raft-Independent Signaling by Linker for Activation of T Cells
Matthias Hundt, Yohsuke Harada, Lauren De Giorgio, Natsumi Tanimura, Weiguo Zhang, and Amnon Altman

Gene Regulation and Chromatin Remodeling by IL-12 and Type I IFN in Programming for CD8 T Cell Effector Function and Memory
Puji Agrawal, Arvind Raghavan, Sarada L. Nandiwada, Julie M. Curtisinger, Paul R. Bohjanen, Daniel L. Mueller, and Matthew F. Mescher

Spontaneous Autoimmunity Sufficiently Potent to Induce Diabetes Mellitus Is Insufficient to Protect against Insulinoma
Kelley Zwicker, Christa Chatten, Kathy Gratton, Doug Demetrick, Pau Serra, Afsin Shamsi, Pere Santamarina, and Oliver F. Bathe

Inhibition of ERK MAPK Suppresses IL-23- and IL-1-Driven IL-17 Production and Attenuates Autoimmune Disease

Human CD14+ Macrophages in Intestinal Lamina Propria Exhibit Potent Antigen-Presenting Ability
Nobuhiko Kamada, Takakazu Hiisamatsu, Haruki Honda, Taku Kobayashi, Hiroshi Chinen, Mina Tokutake Kitazume, Tetsuro Takayama, Susumu Okamoto, Katsuakira Koganei, Akira Sugita, Takanori Kanai, and Toshiyuki Hibi

IL-6 Is Required for Airway Mucus Production Induced by Inhaled Fungal Allergens
Wendy A. Neveu, Jenna B. Allard, Oliver Dienz, Matthew J. Wargo, Gennaro Ciliberto, Laurie A. Whittaker, and Mercedes Rincon

Mast Cell-Dependent Contraction of Human Airway Smooth Muscle Cell-Containing Collagen Gels: Influence of Cytokines, Matrix Metalloproteases, and Serine Proteases
Alexander Margulis, Karl H. Nocka, Agnes M. Brennan, Bijia Deng, Margaret Fleming, Samuel J. Goldman, and Marion T. Kastian

Late Endosome/Lysosome-Localized Rab7b Suppresses TLR9-Initiated Proinflammatory Cytokine and Type I IFN Production in Macrophages
Ming Yao, Xingguang Liu, Dong Li, Tao Yang, Zhen Cai, and Xueqiao Cao

An Engineered GM-CSF-CCL2 Fusokine Is a Potent Inhibitor of CCR2-Driven Inflammation As Demonstrated in a Murine Model of Inflammatory Arthritis
Moutih Rafei, Yamina A. Berchiche, Elena Birman, Marie-Noëlle Boivin, Yoon Kow Young, Jian Hui Wu, Nikolaus Heveker, and Jacques Galipeau

Inflamed Lymphatic Endothelium Suppresses Dendritic Cell Maturation and Function via Mac-1/ICAM-1-Dependent Mechanism
Simona Podgrabinska, Okechegwu Kamalu, Lloyd Mayer, Motoumi Shimaoka, Hans Snoeck, Gwen Dylwyn J. Randolph, and Mihaela Skobe

Distinct Requirements for CD1d Intracellular Transport for Development of Vα14 iNKT Cells
Fenna C. M. Sille, Mike Boxem, Dave Sprenger, Natacha Verrips, Gwendalyn J. Randolph, and Marijanne Bøes

The Lytic Potential of Human Liver NK Cells Is Restricted by Their Limited Expression of Inhibitory Killer Ig-Like Receptors
Bryan M. Burt, George Plitas, Zeguo Zhao, Zubin M. Bamboat, Hoang M. Nguyen, Bo Dupont, and Ronald P. DeMatteo
Deletion of the C-Terminal Region of Dengue Virus Nonstructural Protein 1 (NS1) Abolishes Anti-NS1-Mediated Platelet Dysfunction and Bleeding Tendency
Mei-Chun Chen, Chio-Feng Lin, Huan-Yao Lei, Shih-Chao Lin, Hsiao-Sheng Liu, Trai-Ming Yeh, Robert Anderson, and Yee-Shin Lin

SLP-76 Couples Syk to the Osteoclast Cytoskeleton
Jennifer L. Reeve, Wei Zou, Yuli Liu, Jonathan S. Maltzman, F. Patrick Ross, and Steven L. Teitelbaum

Intracellular Replication-Deficient Leishmania donovani Induces Long Lasting Protective Immunity against Visceral Leishmaniasis
Angamuthu Selvapandiyan, Ranadhir Dey, Susanne Nylen, Robert Duncan, David Sacks, and Hina L. Nakhasi

Antigen Specificity Is not Required for Modulation of Lung Allergic Responses by Naturally Occurring Regulatory T Cells
Anthony Joetham, Katsuyuki Takeda, Masakazu Okamoto, Christian Taube, Hiroyski Matsuda, Azzeddine Dakhama, and Erwin W. Gelfand

Recurrence of Intracranial Tumors following Adoptive T Cell Therapy Can Be Prevented by Direct and Indirect Killing Aided by High Levels of Tumor Antigen Cross-Presented on Stromal Cells
Diana L. Thomas, Miri Kim, Natalie A. Bowerman, Samantha Narayanan, David M. Kranz, Hans Schreiber, and Edward J. Roy

Human B Cells Secrete Granzyme B When Recognizing Viral Antigens in the Context of the Acute Phase Cytokine IL-21
Magdalena Haun, Elisabeth Schweisinger, Verena Ebel, Kai Sontheimer, Julia Maier, Thamara Beyer, Tatiana Syrovets, Yves Laumonnier, Dorit Fabricius, Thomas Simmet, and Bernad Jahrsdörfer

MOLECULAR AND STRUCTURAL IMMUNOLOGY

A Critical Role for REV1 in Regulating the Induction of C:G Transitions and A:T Mutations during Ig Gene Hypermutation
Keiji Masuda, Rika Ouchida, Yingqian Li, Xiang Gao, Hiromi Mori, and Ji-Yang Wang

Trimer Stabilization, Oligomerization, and Antibody-Mediated Cell Surface Immobilization Improve the Activity of Soluble Trimers of CD27L, CD40L, 41BBL, and Glucocorticoid-Induced TNF Receptor Ligand
Agnes Wyzgol, Nicole Müller, Andrea Fick, Sabine Munkel, Goetz Ulrich Grigoleit, Klaus Pfizenmaier, and Harald Wajant

The Mechanism of Osteoclast Differentiation Induced by IL-1
Jung Ha Kim, Hye Mi Jin, Kabsun Kim, Insun Song, Bang Ung Youn, Koichi Matsuo, and Nacksung Kim

Flexible Stereospecific Interactions and Composition within Nucleoprotein Complexes Assembled on the TCRα Gene Enhancer
Beatriz del Blanco, Joseph L. Roberts, Noelia Zamarreno, Nadège Balmelle-Devaux, and Cristina Hernández-Munain

Novel MHC Class I Structures on Exosomes

HOST DEFENSE

Genetically Detoxified Pertussis Toxin Induces Th1/Th17 Immune Response through MAPKs and IL-10-Dependent Mechanisms
Maria Nasso, Giorgio Fedele, Fabiana Spensieri, Raffaella Palazzo, Paolo Contantino, Rino Rappuoli, and Clara Maria Asiello

Selective Expansion of the Monocytic Lineage Directed by Bacterial Infection
Natalya V. Serbina, Tobias M. Hohl, Mathew Cherny, and Eric G. Pamer
CD1d-Based Combination Therapy Eradicates Established Tumors in Mice
Michele W. L. Teng, Janelle Sharkey, Nicole M. McLaughlin, Mark A. Exley, and Mark J. Smyth

The p110δ Isoform of Phosphatidylinositol 3-Kinase Controls Susceptibility to Leishmania major by Regulating Expansion and Tissue Homing of Regulatory T Cells
Dong Liu, Tingting Zhang, Aaron J. Marshall, Klaus Okkenhaug, Bart Vanhaesebroeck, and Jude E. Uzonna

IL-13 Receptor α2 Regulates the Immune and Functional Response to Nippostrongylus brasiliensis Infection
Motoko Marimoto, Aiping Zhao, Rex Sun, Jennifer Stiltz, Kathleen B. Madden, Margaret Mentink-Kane, Thiiramalai Ramalingam, Thomas A. Wynn, Joseph F. Urban, Jr., and Terez Shea-Donohue

NKG2D-Dependent IL-17 Production by Human T Cells in Response to an Intracellular Pathogen
Padmaja Paidipally, Sivakumar Periasamy, Peter F. Barnes, Rohan Dhiman, Mohanalaxmi Indramohan, David E. Griffith, David Cosman, and Ramakrishna Vankayalapati

B and T Lymphocyte Attenuator Tempers Early Infection Immunity
Yonglian Sun, Nicholas K. Brown, Matthew J. Rudy, Mendy L. Miller, Youjin Lee, Yang Wang, Kenneth M. Murphy, Klaus Pfeffer, Lieping Chen, Jonathan Kaye, and Yang-Xin Fu

Pneumococcal Interaction with Human Dendritic Cells: Phagocytosis, Survival, and Induced Adaptive Immune Response Are Manipulated by PavA
Nadja Noske, Ulrike Kämmerer, Manfred Rohde, and Seen Hammerschmidt

The CCL7-CCL2-CCR2 Axis Regulates IL-4 Production in Lungs and Fungal Immunity
Wendy A. Szmyczak and George S. Deepe, Jr.

Microarray Analysis of Lymphatic Tissue Reveals Stage-Specific, Gene Expression Signatures in HIV-1 Infection
Qingheng Li, Anthony J. Smith, Timothy W. Schacker, John V. Carlin, Lijie Duan, Cavan S. Reilly, and Ashley T. Haase

Alveolar Macrophages Transport Pathogens to Lung Draining Lymph Nodes
Alun C. Kirby, Mark C. Coles, and Paul M. Kaye

Lack of CD200 Enhances Pathological T Cell Responses during Influenza Infection

Mycobacterium abscessus Glycopeptidolipids Mask Underlying Cell Wall Phosphatidyl-myo-Inositol Mannosides Blocking Induction of Human Macrophage TNF-α by Preventing Interaction with TLR2
Elizabeth R. Rhoades, Angela S. Archambault, Rebecca Greendyke, Fong-Fu Hsu, Cassandra Streeter, and Thomas F. Byrd

NLRP3 (NALP3, Cryopyrin) Facilitates In Vivo Caspase-1 Activation, Necrosis, and HMGB1 Release via Inflammasome-Dependent and -Independent Pathways
Stephen B. Willingham, Irving C. Allen, Daniel T. Bergstralh, Willie June Brickey, Max Tze-Han Huang, Debra J. Taxman, Joseph A. Duncan, and Jenny P.-Y. Ting

STAT1 Negatively Regulates Lung Basophil IL-4 Expression Induced by Respiratory Syncytial Virus Infection

TREM-1 Activation Alters the Dynamics of Pulmonary IRAK-M Expression In Vivo and Improves Host Defense during Pneumococcal Pneumonia
Heimo Lagler, Omar Sharif, Isabella Haaslinger, Ulrich Matt, Karin Stich, Tanja Furtner, Bianca Doninger, Katharina Schmid, Rainer Gattringer, Alex F. de Vos, and Sylvia Knapp
IL-27 Regulates Homeostasis of the Intestinal CD4+ Effector T Cell Pool and Limits Intestinal Inflammation in a Murine Model of Colitis
Amy E. Troy, Colby Zaph, Yurong Du, Betsy C. Taylor, Katherine J. Guild, Christopher A. Hunter, Christiaan J. M. Saris, and David Artis

Suppression of Regulatory T Cells by IL-12p40 Homodimer via Nitric Oxide
Saurav Brabmachari and Kalipada Pahan

Esceuletin Restores Mitochondrial Dysfunction and Reduces Allergic Asthma Features in Experimental Murine Model
Ulagnathan Mahalingan, Amit Kumar Dinda, Surendra Kumar Sharma, and Balaram Ghosh

TNF-α Preconditioning Protects Neurons via Neuron-Specific Up-Regulation of CREB-Binding Protein
Ramendra N. Saha, Anamitra Ghosh, Carlos A. Palencia, Yiu K. Fung, Serena M. Dudek, and Kalipada Pahan

Site-Specific Production of IL-6 in the Central Nervous System Retargets and Enhances the Inflammatory Response in Experimental Autoimmune Encephalomyelitis
Albert Quintana, Marcus Müller, Ricardo F.Frausto, Raquel Ramos, Daniel R. Getts, Elienda Sanz, Markus J. Hofer, Marius Krausheauen, Nicholas J. C. King, Juan Hidalgo, and Iain L. Campbell

Effects of Low-Dose Aspirin on Acute Inflammatory Responses in Humans
Thea Morris, Melanie Stables, Adrian Hobbs, Patricia de Souza, Paul Colville-Nash, Tim Warner, Justine Newson, Geoffrey Bellingan, and Derek W. Gilroy

Distinct Roles of Sphingosine Kinase 1 and 2 in Murine Collagen-Induced Arthritis
Wen-Qi Lai, Anastasia Windy Iwan, Hong Heng Goh, Alirio J. Melendez, Iain B. McInnes, and Bernard P. Leung

Crystal-Induced Neutrophil Activation: XI. Implication and Novel Roles of Classical Protein Kinase C
Oana Popa-Nita, Sophie Proux, Guillaume Paré, Emmanuelle Rollet-Labelle, and Paul H. Naccache

Maternal Exposure to Secondhand Cigarette Smoke Primes the Lung for Induction of Phosphodiesterase-4D5 Isozyme and Exacerbated Th2 Responses: Rolipram Attenuates the Airway Hyperreactivity and Muscarinic Receptor Expression but Not Lung Inflammation and Atopy
Shashi P. Singh, Neerad C. Mishra, Jules Rir-sima-ah, Mathew Campen, Viswanath Kunup, Seddigheh Razani-Boroujerdi, and Mohan L. Sopori

Dying and Necrotic Neutrophils Are Anti-Inflammatory Secondary to the Release of α-Defensins
Katherine Miles, David J. Clarke, Wuyuan Lu, Zaneta Sibinska, Paula E. Beaumont, Donald J. Davidson, Tom A. Barr, Dominic J. Campopiano, and Mohini Gray

Suplatast Tosilate Inhibits Histamine Signaling by Direct and Indirect Down-Regulation of Histamine H1 Receptor Gene Expression through Suppression of Histidine Decarboxylase and IL-4 Gene Transcriptions
Masum Shahriar, Hiroyuki Mizuguchi, Kazutaka Maeyama, Yoshiaki Kitamura, Naoki Orimoto, Shuhei Horio, Hayato Umebara, Masashi Hattori, Noriaki Takeda, and Hiroyuki Fukui

Skin and Peripheral Lymph Node Invariant NKT Cells Are Mainly Retinoic Acid Receptor-Related Orphan Receptor γt² and Respond Preferentially under Inflammatory Conditions
Jean-Marc Doisne, Chantal Becourt, Latifja Amniai, Nadia Duarte, Jean-Benoît Le Ludueuc, Gérard Eberl, and Kamel Benlagha

MicroRNA-146a Feedback Inhibits RIG-I-Dependent Type I IFN Production in Macrophages by Targeting TRAF6, IRAK1, and IRAK2
Jin Hou, Pin Wang, Li Lin, Xingguang Liu, Feng Ma, Huazhang An, Zhengang Wang, and Xuetao Cao

IL-8 Regulates Mucin Gene Expression at the Posttranscriptional Level in Lung Epithelial Cells
Maria V. Bautista, Yajun Chen, Vesela S. Ivanova, Michael K. Rahimi, Alan M. Watson, and Mary C. Rose
Glucocorticoids Induce Protein S-Dependent Phagocytosis of Apoptotic Neutrophils by Human Macrophages
Aisleen McColl, Stylianos Bournazos, Sandra Franz, Mauro Perretti, B. Paul Morgan, Christopher Hailett, and Ian Dransfield

CLINICAL IMMUNOLOGY

Atypical Memory B Cells Are Greatly Expanded in Individuals Living in a Malaria-Endemic Area
Greta E. Weiss, Peter D. Crompton, Shanping Li, Laura A. Walsh, Susan Moir, Boubacar Traore, Kasoum Kayentao, Aissata Ongoiba, Ogbobara K. Doumbo, and Susan K. Pierce

JAK3 Inhibition Significantly Attenuates Psoriasiform Skin Inflammation in CD18 Mutant PL/J Mice
Betty Y. Chang, Feifei Zhao, Xiaodong He, Hong Ren, Sylvia Braselmann, Vanessa Taylor, Joan Wicks, Donald G. Payan, Elliott B. Grossbard, Polly R. Pine, and Daniel C. Bullard

LETTERS OF RETRACTION

Retraction: Endogenous IL-15 Sustains Recruitment of IL-2Rβ and Common γ and IL-2-Mediated Chemokine Production in Normal and Inflamed Human Gingival Fibroblasts
Akiko Ozawa, Hiroyuki Tada, Yumiko Sugawara, Akiko Uehara, Takashi Sasano, Hitoshi Shimauchi, Haruhiko Takada, and Shunji Sugawara

CORRECTIONS

AUTHOR INDEX