IN THIS ISSUE

CUTTING EDGE

1573 Cutting Edge: A Variant of the IL-23R Gene Associated with Inflammatory Bowel Disease Induces Loss of MicroRNA Regulation and Enhanced Protein Production
Antonie Zwiets, Laurens Kraal, Tineke C. T. M. van de Pouw Kraan, Thomas Wurdinger, Gerd Bouma, and Georg Kraal

1578 Cutting Edge: IL-21 Derived from Human Follicular Helper T Cells Acts as a Survival Factor for Secondary Lymphoid Organ, but Not for Bone Marrow, Plasma Cells
Beatriz Rodríguez-Bayona, Ana Ramos-Amaya, Jesús Bernal, Antonio Campos-Caro, and José A. Brieva

CELLULAR IMMUNOLOGY AND IMMUNE REGULATION

1583 TRAIL + Human Plasmacytoid Dendritic Cells Kill Tumor Cells In Vitro: Mechanisms of Imiquimod- and IFN-α-Mediated Antitumor Reactivity
Madeleine L. Kalb, Astrid Glaser, Georg Stary, Frieder Koszik, and Georg Stingl

1592 Intratumoral Injection of CpG Oligonucleotides Induces the Differentiation and Reduces the Immunosuppressive Activity of Myeloid-Derived Suppressor Cells
Yuko Shirota, Hidekazu Shirota, and Dennis M. Klinman

1600 Temporal Predisposition to αβ and γδ T Cell Fates in the Thymus
Pablo Pereira, Laurent Boucontet, and Ana Camano

1609 IL-21 Can Supplement Suboptimal Lck-Independent MAPK Activation in a STAT-3–Dependent Manner in Human CD8+ T Cells
Osamu Imataki, Sascha Ansiksen, Makito Tanaka, Marcus O. Butler, Alla Berezovskaya, Matthew J. Milstein, Kiyotaka Kuzushima, Lee M. Nadler, and Naoto Hirano

1620 IL-2 Upregulates CD86 Expression on Human CD4+ and CD8+ T Cells
Ananta Paine, Hartmut Kirchner, Stephan Immenschuh, Mathias Oelke, Rainer Blaszyk, and Britta Eiz-Vesper

1630 Th2 Skewing by Activation of Nrf2 in CD4⁺ T Cells
Cheryl E. Rockwell, Mingcai Zhang, Patrick E. Fields, and Curtis D. Klaassen

1638 PSGL-1 Regulates the Migration and Proliferation of CD8⁺ T Cells under Homeostatic Conditions
Krystle M. Veerman, Douglas A. Carlow, Iryna Shanina, John J. Priatel, Marc S. Horwitz, and Hermann J. Ziltener

1647 OX40 Ligand and Programmed Cell Death 1 Ligand 2 Expression on Inflammatory Dendritic Cells Regulates CD4 T Cell Cytokine Production in the Lung during Viral Disease
Sarah E. Wyibe, Jonathan S. Dodd, Peter J. Openshaw, and Jurgen Schwarz

1656 IL-21 Receptor Is Required for the Systemic Accumulation of Activated B and T Lymphocytes in MRL/MpJ-Fas(−/−) Mice
Andrew L. Rankin, Heath Guay, Deborah Herber, Sarah A. Bertino, Tatyana A. Duzancki, Yijun Carrier, Sean Keegan, Marya Senices, Nancy Stedman, Mark Ryan, Laird Bloom, Quintus Medley, Mary Collins, Cheryl Nickerson-Nutter, Joe Craft, Deborah Young, and Kyri Dunussi-Joannopoulos

1668 Human NK Cells Induce Neutrophil Apoptosis via an Nkp46- and Fas-Dependent Mechanism
Fredrik B. Thorén, Rebecca E. Riise, Jenny Ousbück, Mariella Della Chiesa, Mikael Alsterholm, Emanuela Marzenaro, Silvia Pesce, Carola Prato, Claudia Cantoni, Johan Bylund, Lorenzo Moretta, and Alessandro Moretta

1675 Natural IgM Anti-Leukocyte Autoantibodies Attenuate Excess Inflammation Mediated by Innate and Adaptive Immune Mechanisms Involving Th-17
Peter I. Lobo, Amandeep Bajwa, Kaito H. Schlegel, John Vengal, Sang J. Lee, Liping Huang, Hong Ye, Umesh Deshmukh, Tong Wang, Hong Pei, and Mark D. Okusa

1686 B Lymphocytes Treated In Vitro with Antigen Coupled to Cholera Toxin B Subunit Induce Antigen-Specific Foxp3⁺ Regulatory T Cells and Protect against Experimental Autoimmune Encephalomyelitis
Jia-Bin Sun, Cecil Czerkinsky, and Jan Holmgren

1690 Murine Regulatory T Cells Contain Hyperproliferative and Death-Prone Subsets with Differential ICOS Expression
Yong Chen, Shudan Shen, Balachandra K. Gorentla, Jimin Gao, and Xiao-Ping Zhong

1700 Human γδ T Lymphocytes Are Licensed for Professional Antigen Presentation by Interaction with Opsonized Target Cells
Nourredine Himoudi, Daniel A. Morgenstern, Mengyong Yan, Bertrand Vernay, Luisa Saravia, Yin Wu, Cyrille J. Cohen, Keith Gusafson, and John Anderson

1706 Single-Cell Network Profiling of Peripheral Blood Mononuclear Cells from Healthy Donors Reveals Age- and Race-Associated Differences in Immune Signaling Pathway Activation
Diane M. Longo, Brent Louie, Santosh Putta, Erik Evensen, Jason Ptacek, James Cordeiro, Ena Wang, Zoltan Pos, Rachael E. Hawtin, Francesco M. Marincola, and Alessandra Cesano

1726 Diverse Functions of Distal Regulatory Elements at the IFNG Locus
Patrick L. Collins, Melodie A. Henderson, and Thomas M. Aune

1728 Allergen-Specific CTL Require Perforin Expression To Suppress Allergic Airway Inflammation
Noriyuki Enomoto, Evelyn Hyde, Joel Zhi-Long Ma, Jianping Yang, Elizabeth Forbes-Blom, Brett Delahunt, Graham Le Gros, and Franco Ronchese

1742 The Living Eye “Disarms” Uncommitted Autoreactive T Cells by Converting Them to Foxp3⁺ Regulatory Cells following Local Antigen Recognition
Ru Zhou, Reiko Horai, Phyllis B. Silver, Mary J. Mattappallil, Carlos R. Zárate-Bladés, Wai Po Chong, Jun Chen, Rachael C. Rigden, Rafael Villasmil, and Rachel R. Caspi

1751 CD64 Expression Distinguishes Monocyte-Derived and Conventional Dendritic Cells and Reveals Their Distinct Role during Intramuscular Immunization
Christelle Langelot, Samira Tamoustoune, Sandrine Henri, Hervé Luche, Laurence Ardouin, Claude Grégoire, Bernard Malissen, and Martin Guilliams
IL-1 Receptor Signaling Is Required at Multiple Stages of Sensitization and Elicitation of the Contact Hypersensitivity Response
Danielle D. Kish, Anton V. Gorbachev, and Robert L. Fairchild

Tetracyclines Convert the Osteoclastic-Differentiation Pathway of Progenitor Cells To Produce Dendritic Cell-like Cells
Saya Kinugawa, Masanori Koide, Yasuhiro Kobayashi, Toshihide Mizoguchi, Tadashi Ninomiya, Akinori Muto, Ichiro Kawahara, Midori Nakamura, Hisataka Yasuda, Naoyuki Takahashi, and Nobuyuki Udagawa

Vaccines Targeting Tumor Blood Vessel Antigens Promote CD8+ T Cell-Dependent Tumor Eradication or Dormancy in HLA-A2 Transgenic Mice
Xi Zhao, Anamika Bose, Hideo Komita, Jennifer L. Taylor, Nina Chi, Devin B. Lowe, Hideko Okada, Ying Cao, Deubrata Mukhopadhyay, Peter A. Cohen, and Walter J. Storkus

Synergism between Curdlan and GM-CSF Confers a Strong Inflammatory Signature to Dendritic Cells
Lin Min, Siti Aminah Bte Mohammad Isa, Wei Nih Fam, Siu Kuan Sze, Ottavio Beretta, Alessandra Mortellaro, and Christiane Ruedl

Airway Activation of Formyl Peptide Receptors Inhibits Th1 and Th17 Cell Responses via Inhibition of Mediator Release from Immune and Inflammatory Cells and Maturation of Dendritic Cells
You-Me Tae, Hyun Taek Park, Hyung-Geun Moon, You-Sun Kim, Seong Gyu Jeon, Tae-Young Roh, Yoe-Sik Bae, Yong Song Gho, Sung Ho Ryu, Hyun-Soo Kwon, and Yoon-Keun Kim

Role of Mast Cells and Basophils in IgE Responses and in Allergic Airway Hyperresponsiveness
Minoru Sawaguchi, Shinya Tanaka, Yuriko Nakatani, Yasuyo Harada, Kaori Mukai, Yuko Matsunaga, Kenji Ishiwata, Keisuke Oboki, Taku Kambayashi, Naohiro Watanabe, Hajime Karasuyama, Susumu Nakae, Hiromasa Inoue, and Masato Kubo

Structural Elucidation of the Mechanistic Basis of Degeneracy in the Primary Humoral Response
Tarique Khan and Dinakar M. Salunke

Cullin 4B Is Recruited to Tristetрапrolin-Containing Messenger Ribonucleoproteins and Regulates TNF-α mRNA Polysome Loading
Jason R. Pfeiffer and Seth A. Brooks

Conventional Dendritic Cells Require IRAP-Rab14 Endosomes for Efficient Cross-Presentation
Mirjana Weimershaus, Sophia Maschalidi, Fernando Sepulveda, Bénédicte Manoury, Peter van Endert, and Loredana Saveanu

2-Deoxy D-Glucose Prevents Cell Surface Expression of NKG2D Ligands through Inhibition of N-Linked Glycosylation
Lars Andresen, Sarah Line Skovbakke, Gry Person, Michael Hagemann-Jensen, Karen Aagaard Hansen, Helle Jensen, and Søren Skov

Characterization of the Promoter and the Transcriptional Regulation of the Lipoxin A4 Receptor (FPR2/ALX) Gene in Human Monocytes and Macrophages

A Proposed Algorithm Predictive for Cytotoxic T Cell Alloreactivity
Monique M. Jöris, Ion J. van Rood, Dave L. Roelen, Machtedt Oudshoorn, and Frans H. J. Claas

The IL-7Rα Pathway Is Quantitatively and Functionally Altered in CD8 T Cells in Multiple Sclerosis
HOST DEFENSE

1884 ExoS and ExoT ADP Ribosyltransferase Activities Mediate Pseudomonas aeruginosa Keratitis by Promoting Neutrophil Apoptosis and Bacterial Survival
Yan Sun, Mausita Karmakar, Patricia R. Taylor, Arne Rietsch, and Eric Pearlman

1896 Plac8-Dependent and Inducible NO Synthase-Dependent Mechanisms Clear Chlamydia muridarum Infections from the Genital Tract
Raymond M. Johnson, Micah S. Kerr, and James E. Slaven

1905 IL-12Rβ2 Is Essential for the Development of Experimental Cerebral Malaria
Matthilde Faunconnier, Jennifer Palomo, Marie-Laure Bourrigault, Sandra Mene, Frédéric Szeremeta, Jean-Claude Beloeil, Adeline Dannene, Sabine Charron, Pascale Rihet, Bernhard Ryffel, and Valérie F. J. Quesniaux

1915 STAT1-Independent Control of a Neurotropic Measles Virus Challenge in Primary Neurons and Infected Mice
Lauren A. O’Donnell, Stephen Conway, R. Wesley Rose, Emmanuelle Nicolas, Michael Slifker, Siddharth Balachandran, and Glenn F. Rall

1924 IL-21 Promotes the Pathologic Immune Response to Pneumovirus Infection
Roanne Spolksi, Lu Wang, Chi-Keung Wan, Cynthia A. Bonville, Joseph B. Domachowske, Hyoung-Pyo Kim, Zuxi Yu, and Warren J. Leonard

1933 Defective CD8 T Cell Responses in Aged Mice Are Due to Quantitative and Qualitative Changes in Virus-Specific Precursors
Vilma Deconinck, Brian J. Laidlaw, Travis A. Doering, Jin Leng, Hildegund C. J. Ertl, Daniel R. Goldstein, and E. John Wherry

1942 Trypanosoma cruzi Immune Evasion Mediated by Host Cell-Derived Microvesicles
Igor Cestari, Ephraim Anis-Addo, Poliana Deolindo, Jameel M. Inal, and Marcel I. Ramirez

1953 Activation of the NLRP3 Inflammasome by Group B Streptococci

1961 Alcohol Impairs the Myeloid Proliferative Response to Bacteremia in Mice by Inhibiting the Stem Cell Antigen-1/ERK Pathway

INFLAMMATION

1970 Matrix Metalloproteinase-Dependent Microsomal Prostaglandin E Synthase-1 Expression in Macrophages: Role of TNF-α and the EP4 Prostanoid Receptor
K. M. Faisal Khan, Poonam Kothari, Baoheng Du, Andrew J. Dannenberg, and Domenick J. Falcone

1981 Anti–IL-20 Monoclonal Antibody Suppresses Breast Cancer Progression and Bone Osteolysis in Murine Models
Yu-Hsiang Hsu, Chung-Hsi Hsing, Chien-Feng Li, Chien-Hui Chan, Ming-Chung Chang, Jing-Jou Yan, and Ming-Shi Chang

1992 Caspase-4 Is Required for Activation of Inflammasomes
Gabriel Sollberger, Gerhard E. Strittmatter, Magdalena Kistowska, Lars E. French, and Hans-Dietmar Beer

2001 CD69 Regulates Type I IFN-Induced Tolerogenic Signals to Mucosal CD4 T Cells That Attenuate Their Colitogenic Potential
Katarina Radulovic, Calin Manta, Valerio Rossini, Karlheinz Holzmann, Hans A. Kestler, Ursula Maria Wegenka, Toshinori Nakayama, and Jan Hendrik Niess

2014 Membrane-Tethered MUC1 Mucin Is Phosphorylated by Epidermal Growth Factor Receptor in Airway Epithelial Cells and Associates with TLR5 To Inhibit Recruitment of MyD88
Kosuke Kato, Erik P. Lillehoj, Yong Sung Park, Tsuyoshi Umezawa, Nicholas E. Hoffman, Muniswamy Madesh, and K. Chul Kim
Human MSH6 Deficiency Is Associated with Impaired Antibody Maturation
Pauline Gardès, Monique Forveille, Marie-Alexandra Alyanakian, Pierre Aucouturier, Denisa Ilencikova, Dominique Leroux, Nils Rahner, Fabienne Mazerolles, Alain Fischer, Sven Kracker, and Anne Durandy

A Novel C3 Mutation Causing Increased Formation of the C3 Convertase in Familial Atypical Hemolytic Uremic Syndrome

Correction: In Vivo Analysis of Ifn-γ1 and Ifn-γ2 Signaling in Zebrafish
Dina Aggad, Cornelia Stein, Dirk Sieger, Martine Mazel, Pierre Boudinot, Philippe Herbomel, Jean-Pierre Levrard, Georges Lutfalla, and Maria Leptin

AUTHOR INDEX