3013 IN THIS ISSUE

PILLARS OF IMMUNOLOGY

3015 TCR Transgenic Mice That Shed Light on Immune and Environmental Regulators in Multiple Sclerosis
Kathrine E. Attfield and Lars Fugger

3018 Pillars Article: Transgenic Mice that Express a Myelin Basic Protein-Specific T Cell Receptor Develop Spontaneous Autoimmunity.
Joan Goverman, Andrea Woods, Lisa Larson, Leslie P. Weiner, Leroy Hood, and Dennis M. Zaller

3028 Pillars Article: High Incidence of Spontaneous Autoimmune Encephalomyelitis in Immunodeficient Anti-Myelin Basic Protein T Cell Receptor Transgenic Mice.
Cell. 1994. 78: 399–408
Juan J. Lafaille, Kumiko Nagashima, Motoya Katsuki, and Susumu Tonegawa

BRIEF REVIEWS

3039 Young Lives Lost as B Cells Falter: What We Are Learning About Antibody Responses in Malaria
Silvia Portugal, Susan K. Pierce, and Peter D. Crompton

CUTTING EDGE

3049 Cutting Edge: STAT1 Is Required for IL-6–Mediated Bcl6 Induction for Early Follicular Helper Cell Differentiation
Youn Soo Choi, Damelle Eto, Jessica A. Yang, Christopher Lao, and Shane Croisy

3054 Cutting Edge: Leptin-Induced RORγt Expression in CD4+ T Cells Promotes Th17 Responses in Systemic Lupus Erythematosus
Yiyun Yu, Yaoyang Liu, Fu-Dong Shi, Hejian Zou, Giuseppe Matarese, and Antonio La Cava

ALLERGY AND OTHER HYPERSENSITIVITIES

Identification of Der p 23, a Peritrophin-like Protein, as a New Major Dermatophagoides pteronyssinus Allergen Associated with the Peritrophic Matrix of Mite Fecal Pellets

A Nonallergenic Birch Pollen Allergy Vaccine Consisting of Hepatitis PreS–Fused Bet v 1 Peptides Focuses Blocking IgG toward IgE Epitopes and Shifts Immune Responses to a Tolerogenic and Th1 Phenotype

ANTIGEN RECOGNITION AND RESPONSES

TCR-Driven Transendothelial Migration of Human Effector Memory CD4 T Cells Involves Vav, Rac, and Myosin IIA
Thomas D. Manes and Jordan S. Pober

Differential Polarization of C-Terminal Src Kinase between Naive and Antigen-Experienced CD8+ T Cells
Jessica G. Borger, Andrew Filby, and Rose Zamoyska

Primate B-1 Cells Generate Antigen-Specific B Cell Responses to T Cell–Independent Type 2 Antigens
Rama D. Yammani and Karen M. Haas

AUTOIMMUNITY

Genetic Interactions among Idd3, Idd5.1, Idd5.2, and Idd5.3 Protective Loci in the Nonobese Diabetic Mouse Model of Type 1 Diabetes
Xiaotian Lin, Emma E. Hamilton-Williams, Daniel B. Rainbow, Kara M. Hunter, Yang D. Dai, Jocelyn Cheung, Laurence B. Peterson, Linda S. Wicker, and Linda A. Sherman

Expression of CXCR3 on Specific T Cells Is Essential for Homing to the Prostate Gland in an Experimental Model of Chronic Prostatitis/Chronic Pelvic Pain Syndrome
Maria L. Breier, Ruben D. Motrich, Leonardo R. Sanchez, Juan P. Mackern-Oberti, and Virginia E. Rivero

Autoreactive Th1 Cells Activate Monocytes To Support Regional Th17 Responses in Inflammatory Arthritis
Donald M. Simons, Soyoung Oh, Elizabeth Krupf, Malinda Aitken, Victoria Garcia, Alissa Basehoar, and Andrew J. Caton

CLINICAL AND HUMAN IMMUNOLOGY

IL-7 Licenses Activation of Human Liver Intrasinusoidal Mucosal-Associated Invariant T Cells
Xin-Zi Tang, Juandy Jo, Anthony T. Tan, Elena Sandalova, Adeline Chia, Kai Chah Tan, Kang Hoe Lee, Adam J. Gehring, Gennaro De Libero, and Antonio Bertoletti

IMMUNE REGULATION

A Dynamic Dual Role of IL-2 Signaling in the Two-Step Differentiation Process of Adaptive Regulatory T Cells
Zhiyong Guo, Mithun Khattar, Paul M. Schroder, Yoshihiro Miyahara, Guohua Wang, Xiaoshung He, Wenbao Chen, and Stanislav M. Stepkowski

β2-Adrenergoreceptor Agonist Inhibits Antigen Cross-Presentation by Dendritic Cells
Julie Herve, Lawrence Dubreil, Virginie Tardif, Michael Terme, Sylvie Pogu, Ignacio Anegon, Bertrand Rozec, Chantal Gauthier, Jean-Marie Bach, and Philippe Blancou

DC-SCRIPT Regulates Glucocorticoid Receptor Function and Expression of Its Target GILZ in Dendritic Cells
Saartje Hontelez, Nina Karthaus, Maaike W. Looman, Marleen Ansems, and Gosse J. Adema

Active Demethylation of the Foxp3 Locus Leads to the Generation of Stable Regulatory T Cells within the Thymus
Aras Toher, Dirk Engelbert, Garima Garg, Julia K. Polansky, Stefan Floess, Takahisa Miyao, Udo Baron, Sandra Duerer, Robert Geffers, Pascal Giehr, Sonja Schallenberg, Karsten Kretschmer, Sven Olek, Jürgen Walter, Siegfried Weiss, Shohai Hori, Alf Hamann, and Jochen Huehn
Constitutively CD40–Activated B Cells Regulate CD8 T Cell Inflammatory Response by IL-10 Induction
Pandelakis A. Koni, Anna Bolduc, Mayuko Takezaki, Yutetsu Ametani, Lei Huang, Jeffrey R. Lee, Stephen L. Nutt, Masahito Kamanaka, Richard A. Flavell, Andrew L. Mellor, Takeshi Tsuhata, and Michiko Shimoda

Orai1 Function Is Essential for T Cell Homing to Lymph Nodes
Milton L. Greenberg, Ying Yu, Sabrina Leverrier, Shenyuan L. Zhang, Ian Parker, and Michael D. Cabalan

Differential Localization of T-bet and Eomes in CD8 T Cell Memory Populations
Laura M. McLane, Pinaki P. Banerjee, Gabriela L. Cosma, George Makedonas, E. John Wherry, Jordan S. Orange, and Michael R. Betts

KIR3DL2 Binds to HLA-B27 Dimers and Free H Chains More Strongly than Other HLA Class I and Promotes the Expansion of T Cells in Ankylosing Spondylitis
Isabel Wong-Baeza, Anna Ridley, Jackie Shaw, Hiroko Hatano, Oliwia Ryniak, Kirsty McHugh, Christopher Piper, Simon Brackenbridge, Ricardo Fernandes, Anthony Chan, Paul Bowness, and Simon Kollnberger

Independent and Interdependent Immunoregulatory Effects of IL-27, IFN-β, and IL-10 in the Suppression of Human Th17 Cells and Murine Experimental Encephalomyelitis

Regulation of Foxp3+ Inducible Regulatory T Cell Stability by SOCS2
Camille A. Knosp, Chris Schiering, Shaun Spence, Helen P. Carroll, Hendrick J. Nel, Megan Oshourn, Ruaidhri Jackson, Oksana Lyubomska, Bernard Malissen, Rebecca Ingram, Denise C. Fitzgerald, Fiona Pourrie, Padraic G. Fallon, James A. Johnston, and Adrien Kissenpfennig

The Ataxia Telangiectasia Mutated Kinase Pathway Regulates IL-23 Expression by Human Dendritic Cells
Quanwei Wang, Hester A. Franks, Stephanie J. Lax, Mohamed El Refaee, Anna Malecka, Sabaria Shah, Ian Spendlove, Michael J. Gough, Claire Seedhouse, Srinivasan Madhusudan, Poulam M. Patel, and Andrew M. Jackson

IMMUNE SYSTEM DEVELOPMENT

Requirement for Dicer in Survival of Proliferating Thymocytes Experiencing DNA Double-Strand Breaks
Brenna L. Brady, Levi J. Rupp, and Craig H. Bassing

Programmed Downregulation of CCR6 Is Important for Establishment of Epidermal γδT Cells by Regulating Their Thymic Egress and Epidermal Location
Shaomin Hu and Na Xiong

Loss of T Cell Progenitor Checkpoint Control Underlies Leukemia Initiation in Rag1-Deficient Nonobese Diabetic Mice
Mary A. Yui, Ni Feng, Jingli A. Zhang, Chen Yee Liaw, Ellen V. Rothenberg, and Jeffrey A. Longmate

IRF7-Dependent IFN-β Production in Response to RANKL Promotes Medullary Thymic Epithelial Cell Development
Dennis C. Otero, Darren P. Baker, and Michael David

Functional Education of Invariant NKT Cells by Dendritic Cell Tuning of SHP-1
Anna Napolitano, Paola Pittoni, Lucie Beaudoin, Agnes Lehuen, David Voehringer, H. Robson MacDonald, Paolo Dellabona, and Giulia Casorati

Peyer’s Patch Inducer Cells Play a Leading Role in the Formation of B and T Cell Zone Architecture
Reiko Nakagawa, Atsushi Togawa, Takashi Nagaawa, and Shin-ishi Nishikawa

IMMUNOTHERAPY AND VACCINES

Antigen Choice Determines Vaccine-Induced Generation of Immunogenic versus Tolerogenic Dendritic Cells That Are Marked by Differential Expression of Pancreatic Enzymes
Adam M. Farkas, Douglas M. Marvel, and Olivera J. Finn
Fast Dendritic Cells Stimulated with Alternative Maturation Mixtures Induce Polyfunctional and Long-Lasting Activation of Innate and Adaptive Effector Cells with Tumor-Killing Capabilities
Chiara Masa and Barbara Seliger

Intradermal Delivery of TLR Agonists in a Human Explant Skin Model: Preferential Activation of Migratory Dendritic Cells by Polyribosinic-Polyribocytidylic Acid and Peptidoglycans
Dinja Oosterhoff, Moniek Heusinkveld, Sinéad M. Longheed, Ilona Kosten, Malin Lundstedt, Sven C. M. Bruinjs, Thomas van Es, Yeette van Kooyk, Sjoerd H. van der Burg, and Tanja D. de Gruijl

INFECTIOUS DISEASE AND HOST RESPONSE

IFN-α Induces APOBEC3G, F, and A in Immature Dendritic Cells and Limits HIV-1 Spread to CD4+ T Cells
Venkatramanan Mohanram, Annette E. Sköld, Susanna M. Bächle, Sushil Kumar Pathak, and Anna-Lena Spetz

Regulation of Cystic Fibrosis Transmembrane Conductance Regulator by MicroRNA-145, -223, and -494 Is Altered in ΔF508 Cystic Fibrosis Airway Epithelium
Irene K. Oglesby, Sanjay H. Chotirmall, Noel G. McElvaney, and Catherine M. Greene

Malaria Inhibits Surface Expression of Complement Receptor 1 in Monocytes/Macrophages, Causing Decreased Immune Complex Internalization
Cristina Fernandez-Arias, Jean Pierre Lopez, Jean Nikolaew Hernandez-Perez, Maria Dolores Bautista-Ojeda, OralLee Branch, and Ana Rodriguez

Impaired TLR5 Functionality Is Associated with Survival in Melioidosis

Parasite-Derived Arginase Influences Secondary Anti-Leishmania Immunity by Regulating Programmed Cell Death-1–Mediated CD4+ T Cell Exhaustion
Zhizong Mou, Helen M. Muleme, Dong Liu, Ping Jia, Ifeoma B. Okwor, Shiby M. Kuriakose, Stephen M. Beverley, and Jude E. Uzonna

INNATE IMMUNITY AND INFLAMMATION

Implicating Exudate Macrophages and Ly-6Chigh Monocytes in CCR2-Dependent Lung Fibrosis following Gene-Targeted Alveolar Injury
3458 Nascent Endothelium Initiates Th2 Polarization of Asthma
Kewal Asosingh, Georgiana Cheng, Weiling Xu, Benjamin M. Savasky, Mark A. Aronica, Xiaoxia Li, and Serpil C. Erzurum

3466 Troxerutin Counteracts Domoic Acid–Induced Memory Deficits in Mice by Inhibiting CCAAT/Enhancer Binding Protein β–Mediated Inflammatory Response and Oxidative Stress
Jun Lu, Dong-mei Wu, Yuan-lin Zheng, Bin Hu, Wei Cheng, Zi-feng Zhang, and Meng-qiu Li

3480 Peptidoglycan Recognition Protein 1 Enhances Experimental Asthma by Promoting Th2 and Th17 and Limiting Regulatory T Cell and Plasmacytoid Dendritic Cell Responses
Shin Yong Park, Xuefang Jing, Dipika Gupta, and Roman Dziarski

3493 C5a Receptor Signaling Prevents Folate Deficiency–Induced Neural Tube Defects in Mice

3500 The Role of IL-1β in the Early Tumor Cell–Induced Angiogenic Response
Yaron Carmi, Shahar Dotan, Peleg Rider, Irena Kaplanov, Malka R. White, Rona Baron, Shai Abusbul, Monica Huszar, Charles A. Dinarello, Ron N. Apte, and Elena Voronov

3510 The Inflammatory Twitch as a General Strategy for Controlling the Host Response
Joshua J. Pothen, Matthew E. Poynter, and Jason H. T. Bates

3517 Gene Deletion of Gabarap Enhances Nlrp3 Inflammasome-Dependent Inflammatory Responses
Zhirong Zhang, Xiaozheng Xu, Jianhui Ma, Jianfeng Wu, Yanhai Wang, Rongbin Zhou, and Jiahuai Han

3525 Tuning Innate Immune Activation by Surface Texturing of Polymer Microparticles: The Role of Shape in Inflammasome Activation

3533 Circulating Monocytes Are Reduced by Sphingosine-1-Phosphate Receptor Modulators Independently of S1P3

3541 A Critical Role for TLR4 Induction of Autophagy in the Regulation of Enterocyte Migration and the Pathogenesis of Necrotizing Enterocolitis
Matthew D. Neal, Chhinder P. Sidhi, Mitchell Dyer, Brian T. Craig, Misty Good, Hongpeng Jia, Ibrahim Yazji, Amin Afrazi, Ward M. Richardson, Donna Beer-Solza, Congrong Ma, Thomas Prindle, Zachary Grant, Maria F. Branca, John Ozolek, and David J. Hackam

3552 Blocking Properdin, the Alternative Pathway, and Anaphylatoxin Receptors Ameliorates Renal Ischemia-Reperfusion Injury in Decay-Accelerating Factor and CD59 Double-Knockout Mice
Takashi Miwa, Sayaka Sato, Damodor Gullipalli, Masaomi Nangaku, and Wen-Chao Song

3560 Essential Role of Surface-Bound Complement Factor H in Controlling Immune Complex–Induced Arthritis

3570 Functional Macrophage Heterogeneity in a Mouse Model of Autoimmune Central Nervous System Pathology
Anat London, Inbal Benhar, Mary J. Mattapallil, Matthias Mack, Rachel R. Caspi, and Michal Schwartz

3579 Exosome-like Nanoparticles from Intestinal Mucosal Cells Carry Prostaglandin E2 and Suppress Activation of Liver NKT Cells
Zhong-Bin Deng, Xiaoying Zhuang, Songwen Ju, Xiaoyu Xiang, Jingyao Mu, Yuelong Liu, Hong Jiang, Lifeng Zhang, James Mobley, Craig McClain, Wenke Feng, William Grizzle, Jun Yan, Donald Miller, Mitchell Kronenberg, and Huang-Ge Zhang
Activation of NLRP3 Inflammasome in Alveolar Macrophages Contributes to Mechanical Stretch-Induced Lung Inflammation and Injury
Jianbo Wu, Zhibo Yan, David E. Schwartz, Jingui Yu, Arar B. Malik, and Guochang Hu

An Extraribosomal Function of Ribosomal Protein L13a in Macrophages Resolves Inflammation
Darshana Poddar, Abhijit Basu, William M. Baldwin, III, Roman V. Kondratov, Sailen Barik, and Barsanjit Mazumder

Novel Function of Trim44 Promotes an Antiviral Response by Stabilizing VISA
Bo Yang, Jie Wang, Yamming Wang, Haiyan Zhou, Xiaodong Wu, Zhigang Tian, and Bing Sun

CaMKIα Regulates AMP Kinase–Dependent, TORC-1–Independent Autophagy during Lipopolysaccharide-Induced Acute Lung Neutrophilic Inflammation
Lanping Guo, Jennifer L. Stripay, Xianghong Zhang, Richard D. Collage, Mei Hulver, Evie H. Carchman, Gina M. Howell, Brian S. Zuckerbraun, Janet S. Lee, and Matthew R. Rosengart

Critical Role of ASC Inflammasomes and Bacterial Type IV Secretion System in Caspase-1 Activation and Host Innate Resistance to Brucella abortus Infection
Marco Tulio R. Gomes, Priscila C. Campos, Fernanda S. Oliveira, Patricia P. Corsetti, Karina R. Bortoluci, Larissa D. Cunha, Dario S. Zamboni, and Sergio C. Oliveira

NKG2D Blockade Inhibits Poly(I:C)-Triggered Fetal Loss in Wild Type but Not in IL-10−/− Mice
Jessica E. Thaxton, Tania Nevers, Eliana O. Lippe, Sandra M.Blois, Shigeru Satoh, and Surendra Sharma

Class I Phosphoinositide-3-Kinases and Src Kinases Play a Nonredundant Role in Regulation of Adhesion-Independent and -Dependent Neutrophil Reactive Oxygen Species Generation
Laura Pumagelli, Carlo C. Campa, Giulia Germina, Clifford A. Lowell, Emilio Hirsch, and Giorgio Berton

Dedicator of Cytokinesis 8 Interacts with Talin and Wiskott-Aldrich Syndrome Protein To Regulate NK Cell Cytotoxicity
Hyoungjun Ham, Sabrice Guerrier, Jungjin Kim, Renee A. Schoon, Erik L. Anderson, Michael J. Hamann, Zhenkun Lou, and Daniel D. Billadeau

BET Protein Function Is Required for Inflammation: Brd2 Genetic Disruption and BET Inhibitor JQ1 Impair Mouse Macrophage Inflammatory Responses
Anna C. Belkina, Barbara S. Nikolajczyk, and Gerald V. Denis

IL-1 Receptor Regulates microRNA-135b Expression in a Negative Feedback Mechanism during Cigarette Smoke–Induced Inflammation
Sabina Halappanavar, Jake Nikola, Dongmei Wu, Andrew Williams, Carole L. Yank, and Martin Stampfl

1,25-Dihydroxyvitamin D Promotes Negative Feedback Regulation of TLR Signaling via Targeting MicroRNA-155–SOCS1 in Macrophages
Yunzi Chen, Weicheng Liu, Tao Sun, Yong Huang, Youli Wang, Dilip K. Deb, Dosuk Yoon, Juan Kong, Ravi Thadhani, and Yan Chun Li

CXCL9 Causes Heterologous Desensitization of CXCL12-Mediated Memory T Lymphocyte Activation
Oliver Giegold, Nadine Ogrishek, Cornelia Richter, Matthias Schröder, Martina Herrero San Juan, Josef M. Pfeflichfeter, and Heinfried H. Radeke

Nucleotide Oligomerization Domain 1 Enhances IFN-γ Signaling in Gastric Epithelial Cells during Helicobacter pylori Infection and Exacerbates Disease Severity
Cody C. Allison, Jonathan Ferrand, Louise McLeod, Mohammad Hassan, Maria Kaparakis-Liaskos, Alexandra Grubman, Prithi S. Bhathal, Anouk Dev, William Sievert, Brendan J. Jenkins, and Richard L. Ferrero

A Nonsense Polymorphism (R392X) in TLR5 Protects from Obesity but Predisposes to Diabetes
Nasser M. Al-Daghri, Mario Clerici, Omar Al-Atas, Diego Farni, Majed S. Alokaif, Khalid M. Alkhafar, Shaun Sabico, Abdul Khader Mohammed, Rachele Cagliani, and Manuela Sironi

MOLECULAR AND STRUCTURAL IMMUNOLOGY
Deciphering Complement Receptor Type 1 Interactions with Recognition Proteins of the Lectin Complement Pathway
Michaël Jacquet, Monique Lacroix, Sarah Ancelet, Evelyne Gout, Christine Gaboriaud, Nicole M. Thielens, and Véronique Roux
Reversion of Somatic Mutations of the Respiratory Syncytial Virus–Specific Human Monoclonal Antibody Fab19 Reveal a Direct Relationship between Association Rate and Neutralizing Potency

Shear Stress–Dependent Downregulation of the Adhesion-G Protein–Coupled Receptor CD97 on Circulating Leukocytes upon Contact with Its Ligand CD55
Olga N. Karpus, Henrike Veninga, Robert M. Hoek, Dennis Flierman, Jaap D. van Buul, Corianne C. vandenAkker, Ed vanBavel, M. Edward Medof, René A. W. van Lier, Kris A. Reedquist, and Jörg Hamann

GRB2-Mediated Recruitment of THEMIS to LAT Is Essential for Thymocyte Development
Wolfgang Paster, Claudia Brockmeyer, Guo Fu, Philip C. Simister, Ben de Wet, Ana Martinez-Riaño, John A. H. Hoerter, Stephan M. Feller, Christoph Wülfing, Nicholas R. J. Gascogne, and Oreste Acuto

MicroRNA-375 Regulation of Thymic Stromal Lymphopoietin by Diesel Exhaust Particles and Ambient Particulate Matter in Human Bronchial Epithelial Cells
Bertram Bleck, Gabriele Grunig, Amanda Chiu, Mengling Liu, Terry Gordon, Angeliki Kazeros, and Joan Reibman

Direct Alloreactivity Is More Susceptible to Regulation by Natural Regulatory T Cells Than Indirect Alloreactivity
Grégory Noël, Meriam Belghith, Benoit Bélanger, Caroline Leduc, and Claude Daniel

Delta-like Ligand 4 Identifies a Previously Uncharacterized Population of Inflammatory Dendritic Cells That Plays Important Roles in Eliciting Allogeneic T Cell Responses in Mice
Kazuhiko Mochizuki, Fang Xie, Shan He, Qing Tong, Yongnian Liu, Izumi Mochizuki, Yajun Guo, Koji Kato, Hideo Yagita, Shin Mineishi, and Yi Zhang

Host B7x Promotes Pulmonary Metastasis of Breast Cancer

Myeloid-Derived Suppressor Cells Regulate Growth of Multiple Myeloma by Inhibiting T Cells in Bone Marrow
Indu R. Ramachandran, Anna Martner, Alexandra Pisklakova, Thomas Condamine, Tiss Chase, Thomas Vogl, Johannes Roth, Dmitry Gabriilovich, and Yulia Nefedova

Correction: MyD88: A Critical Adaptor Protein in Innate Immunity Signal Transduction
Neil Warner and Gabriel Nuñez

AUTHOR INDEX