

BULK ANTIBODIES

for *in vivo*

RESEARCH

α -CD4

α -CD8

α -CD25

α -NK1.1

α -Ly6G

Discover More

BioCell



The Journal of
Immunology

179 (4)

J Immunol 2007; 179:2033-2659; ;
<http://www.jimmunol.org/content/179/4>

This information is current as
of February 22, 2019.

Why *The JI*? [Submit online.](#)

- **Rapid Reviews!** 30 days* from submission to initial decision
- **No Triage!** Every submission reviewed by practicing scientists
- **Fast Publication!** 4 weeks from acceptance to publication

*average

Subscription Information about subscribing to *The Journal of Immunology* is online at:
<http://jimmunol.org/subscription>

Permissions Submit copyright permission requests at:
<http://www.aai.org/About/Publications/JI/copyright.html>

Email Alerts Receive free email-alerts when new articles cite this article. Sign up at:
<http://jimmunol.org/alerts>

The Journal of Immunology is published twice each month by
The American Association of Immunologists, Inc.,
1451 Rockville Pike, Suite 650, Rockville, MD 20852
All rights reserved.
Print ISSN: 0022-1767 Online ISSN: 1550-6606.





IMMUNOLOGY

THE JOURNAL OF

TABLE OF CONTENTS

2033 IN THIS ISSUE

BRIEF REVIEWS

- 2035 Structure and Function: Heat Shock Proteins and Adaptive Immunity
Babak Javid, Paul A. MacAry, and Paul J. Lehner

CUTTING EDGE

- 2041 Cutting Edge: *Trans*-Signaling via the Soluble IL-6R Abrogates the Induction of FoxP3 in Naive CD4⁺CD25⁻ T Cells
Sabine Dominitzki, Massimo C. Fantini, Clemens Neufert, Alexei Nikolaev, Peter R. Galle, Jürgen Scheller, Giovanni Monteleone, Stefan Rose-John, Markus F. Neurath, and Christoph Becker
- 2046 Cutting Edge: Primary B Lymphocytes Preferentially Expand Allogeneic FoxP3⁺ CD4 T Cells
Xinjian Chen and Peter E. Jensen
- 2051 Cutting Edge: The ST2 Ligand IL-33 Potently Activates and Drives Maturation of Human Mast Cells
Zoufia Allakhverdi, Dirk E. Smith, Michael R. Comeau, and Guy Delespesse
- 2055 Cutting Edge: A Hypomorphic Mutation in Igβ (CD79b) in a Patient with Immunodeficiency and a Leaky Defect in B Cell Development
A. Kerry Dobbs, Tianyu Yang, Dana Farmer, Leo Kager, Ornella Parolini, and Mary Ellen Conley
- 2060 Cutting Edge: Vitamin D-Mediated Human Antimicrobial Activity against *Mycobacterium tuberculosis* Is Dependent on the Induction of Cathelicidin
Philip T. Liu, Steffen Stenger, Dominic H. Tang, and Robert L. Modlin

CELLULAR IMMUNOLOGY AND IMMUNE REGULATION

- 2065 A Pegylated Derivative of α-Galactosylceramide Exhibits Improved Biological Properties
Thomas Ebensen, Claudia Link, Peggy Riese, Kai Schulze, Michael Morr, and Carlos A. Guzmán
- 2074 Generation of CD8 T Cell Memory Is Regulated by IL-12
Erika L. Pearce and Hao Shen
- 2082 Altered B:9–23 Insulin, When Administered Intranasally with Cholera Toxin Adjuvant, Suppresses the Expression of Insulin Autoantibodies and Prevents Diabetes
Masakazu Kobayashi, Norio Abiru, Takeshi Arakawa, Keiko Fukushima, Hongbo Zhou, Eiji Kawasaki, Hironori Yamasaki, Edwin Liu, Dongmei Miao, F. Susan Wong, George S. Eisenbarth, and Katsumi Eguchi

On the cover: Model of cell penetrating STAT-6 binding peptide (STAT-6-IP) in which the HIV-TAT-derived PTD4 protein transduction domain was fused to seven amino acids surrounding the phosphotyrosine residue of STAT-6. The peptide phosphotyrosine residue (blue), predicted to bind to phosphorylated STAT-6, is oriented to the top. The model was generated using HyperChem 8.0 software. McCusker, C. T., Y. Wang, J. Shan, M. W. Kinyanjui, A. Villeneuve, H. Michael, and E. D. Fisman. 2007. Inhibition of experimental allergic airways disease by local application of a cell-penetrating dominant-negative STAT-6 peptide. *J. Immunol.* 179: 2556–2564.

The Journal of Immunology (ISSN 0022-1767) is published twice each month by The American Association of Immunologists, Inc., 9650 Rockville Pike, Bethesda, MD 20814-3994. Subscription term: New subscriptions and renewals begin January 1 and expire one year later (see <http://www.jimmunol.org/subscriptions> for prices and details). A special rate is available to members of The American Association of Immunologists, Inc. (see <http://www.aai.org/membership>). Periodicals postage paid at Bethesda, MD 20814-3998, and at additional mailing offices. Country of origin U.S.A. Printed on acid-free recyclable paper. Postmaster: Send address changes to *The Journal of Immunology*, Subscription Department, Room L-3407A, 9650 Rockville Pike, Bethesda, MD 20814-3998. Copyright © 2007 by The American Association of Immunologists, Inc.

- 2089 The Adaptor Molecule CIN85 Regulates Syk Tyrosine Kinase Level by Activating the Ubiquitin-Proteasome Degradation Pathway
Giovanna Peruzzi, Rosa Molfetta, Francesca Gasparrini, Laura Vian, Stefania Morrone, Mario Piccoli, Luigi Frati, Angela Santoni, and Rossella Paolini
- 2097 NK Cell Lysis of HIV-1-Infected Autologous CD4 Primary T Cells: Requirement for IFN-Mediated NK Activation by Plasmacytoid Dendritic Cells
Costin Tomescu, Jihed Chehimi, Vernon C. Maino, and Luis J. Montaner
- 2105 Antigen, in the Presence of TGF- β , Induces Up-Regulation of FoxP3^{gfp+} in CD4⁺ TCR Transgenic T Cells That Mediate Linked Suppression of CD8⁺ T Cell Responses
Judith A. Kapp, Kazuhito Honjo, Linda M. Kapp, Kelly Goldsmith, and R. Pat Bucy
- 2115 Role of Direct Effects of IFN- γ on T Cells in the Regulation of CD8 T Cell Homeostasis
Kavita Tewari, Yumi Nakayama, and M. Suresh
- 2126 In Vivo Antigen Stability Affects DNA Vaccine Immunogenicity
Adriaan D. Bins, Monika C. Wolkers, Marly D. van den Boom, John B. A. G. Haanen, and Ton N. M. Schumacher
- 2134 Enhancement of Human Melanoma Antigen Expression by IFN- β
Ian S. Dunn, Timothy J. Haggerty, Michihiro Kono, Paul J. Durda, David Butera, David B. Macdonald, Elizabeth M. Benson, Lenora B. Rose, and James T. Kurnick
- 2143 Chronic Immunodeficiency in Mice Lacking RasGRP1 Results in CD4 T Cell Immune Activation and Exhaustion
John J. Priatel, Xiaoxi Chen, Lauren A. Zenewicz, Hao Shen, Kenneth W. Harder, Marc S. Horwitz, and Hung-Sia Teh
- 2153 Induction of FoxP3⁺CD4⁺25⁺ Regulatory T Cells Following Hemopoietic Stem Cell Transplantation: Role of Bone Marrow-Derived Facilitating Cells
Kendra N. Taylor, Vivek R. Shinde-Patil, Evan Cohick, and Yolonda L. Colson
- 2163 Age-Dependent TCR Revision Mediated by Interaction between $\alpha\beta$ TCR and Self-Antigens
Mitsuyo Takase, Edith M. Kanagawa, and Osami Kanagawa
- 2170 Selective Expansion of Foxp3-Positive Regulatory T Cells and Immunosuppression by Suppressors of Cytokine Signaling 3-Deficient Dendritic Cells
Yumiko Matsumura, Takashi Kobayashi, Kenji Ichiyama, Ryoko Yoshida, Masayuki Hashimoto, Tomohito Takimoto, Kentaro Tanaka, Takatoshi Chinen, Takashi Shichita, Tony Wyss-Coray, Katsuaki Sato, and Akihiko Yoshimura
- 2180 Acute Rejection of Allografted CTL-Susceptible Leukemia Cells from Perforin/Fas Ligand Double-Deficient Mice
Hayabito Nomi, Junko Tashiro-Yamaji, Yumiko Yamamoto, Sayako Miura-Takeda, Masako Miyoshi-Higashino, Takeshi Takahashi, Haruhito Azuma, Haruhiko Ueda, Yoji Katsuoka, Takahiro Kubota, and Ryotaro Yoshida
- 2187 The Context of Epitope Presentation Can Influence Functional Quality of Recalled Influenza A Virus-Specific Memory CD8⁺ T Cells
E. Bridie Day, Weiguang Zeng, Peter C. Doherty, David C. Jackson, Katherine Kedzierska, and Stephen J. Turner
- 2195 OX40 Costimulation Promotes Persistence of Cytomegalovirus-Specific CD8 T Cells: A CD4-Dependent Mechanism
Ian R. Humphreys, Andrea Loewendorf, Carl de Trez, Kirsten Schneider, Chris A. Benedict, Michael W. Munks, Carl F. Ware, and Michael Croft
- 2203 CD134 Costimulation Couples the CD137 Pathway to Induce Production of Supereffector CD8 T Cells That Become IL-7 Dependent
Seung-Joo Lee, Robert J. Rossi, Sun-Kyeong Lee, Michael Croft, Byoung S. Kwon, Robert S. Mittler, and Anthony T. Vella
- 2215 NKT Cell-Derived Urokinase-Type Plasminogen Activator Promotes Peripheral Tolerance Associated with Eye
Koh-Hei Sonoda, Takahiko Nakamura, Howard A. Young, David Hart, Peter Carmeliet, and Joan Stein-Streilein
- 2223 Phospholipase C β Is Critical for T Cell Chemotaxis
Tami L. Bach, Qing-Min Chen, Wesley T. Kerr, Yanfeng Wang, Lurong Lian, John K. Choi, Dianqing Wu, Marcelo G. Kazanietz, Gary A. Koretzky, Sally Zigmund, and Charles S. Abrams

- 2228 Multiple Constraints at the Level of TCR α Rearrangement Impact V α 14i NKT Cell Development
Elizabeth Hager, Abbas Hawwari, Jennifer L. Matsuda, Michael S. Krangel, and Laurent Gapin
- 2235 MHC Class II⁺ Exosomes in Plasma Suppress Inflammation in an Antigen-Specific and Fas Ligand/Fas-Dependent Manner
Seon Hee Kim, Nicole R. Bianco, William J. Shufesky, Adrian E. Morelli, and Paul D. Robbins
- 2242 Effective Treatment of Inflammatory Disease Models with Exosomes Derived from Dendritic Cells Genetically Modified to Express IL-4
Seon Hee Kim, Nicole R. Bianco, William J. Shufesky, Adrian E. Morelli, and Paul D. Robbins
- 2250 TCR Affinity Promotes CD8⁺ T Cell Expansion by Regulating Survival
Mirja Hommel and Philip D. Hodgkin
- 2261 Class IA Phosphoinositide 3-Kinase Modulates Basal Lymphocyte Motility in the Lymph Node
Melanie P. Matheu, Jonathan A. Deane, Ian Parker, David A. Fruman, and Michael D. Cahalan
- 2270 The Recirculating B Cell Pool Contains Two Functionally Distinct, Long-Lived, Posttransitional, Follicular B Cell Populations
Annaiah Cariappa, Cristian Boboila, Stewart T. Moran, Haoyuan Liu, Hai Ning Shi, and Shiv Pillai
- 2282 TACI Is Required for Efficient Plasma Cell Differentiation in Response to T-Independent Type 2 Antigens
George T. Manchev, Catarina S. Cortesão, Michelle Rebrovich, Marilia Cascalho, and Richard J. Bram
- 2289 CCR5 Blockade Modulates Inflammation and Alloimmunity in Primates
Carsten Schröder, Richard N. Pierson III, Bao-Ngoc H. Nguyen, Douglas W. Kawka, Laurence B. Peterson, Guosheng Wu, Tianshu Zhang, Martin S. Springer, Sal J. Siciliano, Susan Iliff, Julia M. Ayala, Min Lu, John S. Mudgett, Kathy Lyons, Sander G. Mills, Geraldine G. Miller, Irwin I. Singer, Agnes M. Azimzadeh, and Julie A. DeMartino
- 2300 A Single Early Activation of Invariant NK T Cells Confers Long-Term Protection against Collagen-Induced Arthritis in a Ligand-Specific Manner
Ken Coppieiers, Katrien Van Beneden, Peggy Jacques, Pieter Dewint, Ann Vervloet, Bert Vander Cruyssen, Serge Van Calenbergh, Guangwu Chen, Richard W. Franck, Gust Verbruggen, Dieter Deforce, Patrick Matthys, Moriya Tsuji, Pieter Rottiers, and Dirk Elewaut
- 2310 Molecular and Cellular Requirements for Enhanced Antigen Cross-Presentation to CD8 Cytotoxic T Lymphocytes
Satoshi Oizumi, Natasa Strbo, Savita Pahwa, Vadim Deyev, and Eckhard R. Podack
- 2318 Development of Sjögren's Syndrome in Nonobese Diabetic-Derived Autoimmune-Prone C57BL/6.NOD-*Aec1Aec2* Mice Is Dependent on Complement Component-3
Cuong Q. Nguyen, Hyuna Kim, Janet G. Cornelius, and Ammon B. Peck
- 2330 Up-Regulation of Bcl-2 through ERK Phosphorylation Is Associated with Human Macrophage Survival in an Estrogen Microenvironment
Manikandan Subramanian and Chandrima Shaha
- 2339 CTLs Contain and Use Intracellular Stores of FasL Distinct from Cytolytic Granules
Jin-Shu He and Hanne L. Ostergaard
- 2349 Fimbrial Proteins of *Porphyromonas gingivalis* Mediate In Vivo Virulence and Exploit TLR2 and Complement Receptor 3 to Persist in Macrophages
Min Wang, Muhamad-Ali K. Shakhateh, Deanna James, Shuang Liang, So-ichiro Nishiyama, Fuminobu Yoshimura, Donald R. Demuth, and George Hajishengallis
- 2359 Complement Receptor 3 Blockade Promotes IL-12-Mediated Clearance of *Porphyromonas gingivalis* and Negates Its Virulence In Vivo
George Hajishengallis, Muhamad-Ali K. Shakhateh, Min Wang, and Shuang Liang
- 2368 In Vivo Persistence of Codominant Human CD8⁺ T Cell Clonotypes Is Not Limited by Replicative Senescence or Functional Alteration
Laurent Derré, Marc Bruyninx, Petra Baumgaertner, Estelle Devevre, Patricia Corthesy, Cédric Towrey, Yolanda D. Mahnke, Hanspeter Pircher, Verena Voelter, Pedro Romero, Daniel E. Speiser, and Nathalie Rufier

MOLECULAR AND STRUCTURAL IMMUNOLOGY

- 2380 *O*-Glycosylated Human MUC1 Repeats Are Processed In Vitro by Immunoproteasomes
Tanja Ninkovic and Franz-Georg Hanisch
- 2389 IL-10 Is Excluded from the Functional Cytokine Memory of Human CD4⁺ Memory T Lymphocytes
Jun Dong, Claudia Ivascu, Hyun-Dong Chang, Peihua Wu, Roberta Angeli, Laura Maggi, Florian Eckhardt, Lars Tykocinski, Carolina Haefliger, Beate Möwes, Jochen Sieper, Andreas Radbruch, Francesco Annunziato, and Andreas Thiel
- 2397 Signal-Transducing Adaptor Protein-2 Regulates Integrin-Mediated T Cell Adhesion through Protein Degradation of Focal Adhesion Kinase
Yuichi Sekine, Satoshi Tsuji, Osamu Ikeda, Kenji Sugiyama, Kenji Oritani, Kazuya Shimoda, Ryuta Muromoto, Norihiko Obbayashi, Akihiko Yoshimura, and Tadashi Matsuda
- 2408 Human Anti-CXCR4 Antibodies Undergo V_H Replacement, Exhibit Functional V-Region Sulfation, and Define CXCR4 Antigenic Heterogeneity
Chen Xu, Jianhua Sui, Hong Tao, Quan Zhu, and Wayne A. Marasco

IMMUNOGENETICS

- 2419 Sequence and Characterization of the Ig Heavy Chain Constant and Partial Variable Region of the Mouse Strain 129S1
Ida Retter, Christophe Chevillard, Maren Scharfe, Ansgar Conrad, Martin Hafner, Tschong-Hun Im, Monika Ludewig, Gabriele Nordsiek, Simone Severitt, Stephanie Thies, America Mauhar, Helmut Blöcker, Werner Müller, and Roy Riblet
- 2428 BXSBlong-lived Is a Recombinant Inbred Strain Containing Powerful Disease Suppressor Loci
Michelle E. K. Haywood, Luisa Gabriel, S. Jane Rose, Nicola J. Rogers, Shozo Izui, and Bernard J. Morley

HOST DEFENSE

- 2435 Despite Increased CD4⁺Foxp3⁺ Cells within the Infection Site, BALB/c IL-4 Receptor-Deficient Mice Reveal CD4⁺Foxp3-Negative T Cells as a Source of IL-10 in *Leishmania major* Susceptibility
Hisashi Nagase, Kathryn M. Jones, Charles F. Anderson, and Nancy Noben-Trauth
- 2445 Filarial Parasites Induce NK Cell Activation, Type 1 and Type 2 Cytokine Secretion, and Subsequent Apoptotic Cell Death
Subash Babu, Carla P. Blauvelt, and Thomas B. Nutman
- 2457 A Role for IFN- γ from Antigen-Specific CD8⁺ T Cells in Protective Immunity to *Listeria monocytogenes*
Kelly A. N. Messingham, Vladimir P. Badovinac, Ali Jabbari, and John T. Harty
- 2467 *Icsbp1*/IRF-8 Is Required for Innate and Adaptive Immune Responses against Intracellular Pathogens
Karine Turcotte, Susan Gauthier, Danielle Malo, Mifong Tam, Mary M. Stevenson, and Philippe Gros
- 2477 A Novel Role for the Bactericidal/Permeability Increasing Protein in Interactions of Gram-Negative Bacterial Outer Membrane Blebs with Dendritic Cells
Hendrik Schultz, Janet Hume, De Sheng Zhang, Theresa L. Gioannini, and Jerrold P. Weiss
- 2485 IFN- γ -Producing Dendritic Cells Are Important for Priming of Gut Intraepithelial Lymphocyte Response Against Intracellular Parasitic Infection
Magali M. Moretto, Louis M. Weiss, Crescent L. Combe, and Imtiaz A. Khan
- 2493 Lymphoma Immunotherapy with CpG Oligodeoxynucleotides Requires TLR9 Either in the Host or in the Tumor Itself
Jiali Li, Wenru Song, Debra K. Czerwinski, Bindu Varghese, Satoshi Uematsu, Shizuo Akira, Arthur M. Krieg, and Ronald Levy
- 2501 *Fusobacterium nucleatum* Induces Fetal Death in Mice via Stimulation of TLR4-Mediated Placental Inflammatory Response
Hongqi Liu, Raymond W. Redline, and Yiping W. Han

- 2509 *Mycobacterium tuberculosis* Infects Dendritic Cells with High Frequency and Impairs Their Function In Vivo
Andrea J. Wolf, Beth Linas, Giralдина J. Trevejo-Nuñez, Eleanor Kincaid, Toshiki Tamura, Kiyoshi Takatsu, and Joel D. Ernst
- 2520 C-Terminal Tail Phosphorylation of *N*-Formyl Peptide Receptor: Differential Recognition of Two Neutrophil Chemoattractant Receptors by Monoclonal Antibodies NFPR1 and NFPR2
Marcia Riesselman, Heini M. Miettinen, Jeannie M. Gripenrog, Connie I. Lord, Brendan Mumeey, Edward A. Dratz, Jamal Stie, Ross M. Taylor, and Algirdas J. Jesaitis
- 2532 The Cellular Immune Response to *Mycobacterium tuberculosis* Infection in the Guinea Pig
Diane Ordway, Gopinath Palanisamy, Marcela Henao-Tamayo, Erin E. Smith, Crystal Shanley, Ian M. Orme, and Randall J. Basaraba
- 2542 *Porphyromonas gingivalis* Selectively Up-Regulates the HIV-1 Coreceptor CCR5 in Oral Keratinocytes
Rodrigo A. Giacaman, Angela H. Nobbs, Karen F. Ross, and Mark C. Herzberg

INFLAMMATION

- 2551 IL-1 Receptor Accessory Protein and ST2 Comprise the IL-33 Receptor Complex
Alissa A. Chackerian, Elizabeth R. Oldham, Erin E. Murphy, Jochen Schmitz, Stefan Pflanz, and Robert A. Kastelein
- 2556 Inhibition of Experimental Allergic Airways Disease by Local Application of a Cell-Penetrating Dominant-Negative STAT-6 Peptide
Christine T. McCusker, Yufa Wang, Jichuan Shan, Margaret W. Kinyanjui, Annie Villeneuve, Husheem Michael, and Elizabeth D. Fixman
- 2565 Induction and Function of Lipocalin Prostaglandin D Synthase in Host Immunity
Myungsoo Joo, Minjae Kwon, Ruxana T. Sadikot, Philip J. Kingsley, Lawrence J. Marnett, Timothy S. Blackwell, R. Stokes Peebles, Jr., Yoshihiro Urade, and John W. Christman
- 2576 Human Blood-Brain Barrier Disruption by Retroviral-Infected Lymphocytes: Role of Myosin Light Chain Kinase in Endothelial Tight-Junction Disorganization
Philippe Vicente Afonso, Simona Ozden, Marie-Christine Prevost, Christine Schmitt, Danielle Seilhean, Babette Weksler, Pierre-Olivier Couraud, Antoine Gessain, Ignacio Andres Romero, and Pierre-Emmanuel Ceccaldi
- 2584 Platelet Factor 4 (CXC Chemokine Ligand 4) Differentially Regulates Respiratory Burst, Survival, and Cytokine Expression of Human Monocytes by Using Distinct Signaling Pathways
Brigitte Kasper, Ernst Brandt, Sven Brandau, and Frank Petersen
- 2592 Cellular and Humoral Autoreactivity in Idiopathic Pulmonary Fibrosis
Carol A. Feghali-Bostwick, Christopher G. Tsai, Vincent G. Valentine, Stephen Kantrow, Michael W. Stoner, Joseph M. Pilewski, Aneal Gadgil, M. Patricia George, Kevin F. Gibson, Augustine M. K. Choi, Naftali Kaminski, Yingze Zhang, and Steven R. Duncan
- 2600 Properdin Can Initiate Complement Activation by Binding Specific Target Surfaces and Providing a Platform for De Novo Convertase Assembly
Dirk Spitzer, Lynne M. Mitchell, John P. Atkinson, and Dennis E. Hourcade

CLINICAL IMMUNOLOGY

- 2609 Unchecked CD70 Expression on T Cells Lowers Threshold for T Cell Activation in Rheumatoid Arthritis
Won-Woo Lee, Zhi-Zhang Yang, Guangjin Li, Cornelia M. Weyand, and Jörg J. Goronzy
- 2616 Fully MHC-Disparate Mixed Hemopoietic Chimeras Show Specific Defects in the Control of Chronic Viral Infections
Brent H. Koehn, Matthew A. Williams, Keshawna Borom, Shivaprakash Gangappa, Thomas C. Pearson, Rafi Ahmed, and Christian P. Larsen
- 2627 Functional T Cell Responses to Tumor Antigens in Breast Cancer Patients Have a Distinct Phenotype and Cytokine Signature
Margaret Inokuma, Corazon dela Rosa, Charles Schmitt, Perry Haaland, Janet Siebert, Douglas Petry, MengXiang Tang, Maria A. Suni, Smita A. Ghanekar, Daiva Gladding, John F. Dunne, Vernon C. Maino, Mary L. Disis, and Holden T. Maecker

- 2634 Neutrophils as a Novel Source of Eosinophil Cationic Protein in IgE-Mediated Processes
Javier Monteseirín, Antonio Vega, Pedro Chacón, M. Jesús Camacho, Rajaa El Bekay, Juan A. Asturias, Alberto Martínez, Pedro Guardia, Ramón Pérez-Cano, and José Conde
- 2642 Baseline Viral Load and Immune Activation Determine the Extent of Reconstitution of Innate Immune Effectors in HIV-1-Infected Subjects Undergoing Antiretroviral Treatment
Jibed Chehimi, Livio Azzoni, Matthew Farabaugh, Shenoa A. Creer, Costin Tomescu, Aidan Hancock, Agnes Mackiewicz, Lara D'Alessandro, Smita Ghanekar, Andrea S. Foulkes, Karam Mounzer, Jay Kostman, and Luis J. Montaner
- 2651 Induction of Primary Biliary Cirrhosis in Guinea Pigs following Chemical Xenobiotic Immunization
Patrick S. C. Leung, Ogyi Park, Koichi Tsuneyama, Mark J. Kurth, Kit S. Lam, Aftab A. Ansari, Ross L. Coppel, and M. Eric Gershwin
- 2658 Corrections
- 2660 Author Index
- 2663 AAI Membership Application
- 2664 AAI Trainee Membership Application