



Empower Discovery.
Increase Efficiency.



MA900 cell sorter

SONY



178 (1)

J Immunol 2007; 178:1-622; ;
<http://www.jimmunol.org/content/178/1>

This information is current as
of February 27, 2021.

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.



1 **IN THIS ISSUE****PILLARS OF IMMUNOLOGY**

- 3 The Birth of a Cell Type
-
- Giorgio Trinchieri*

- 5 Pillars Article: Identification of a Novel Cell Type in Peripheral Lymphoid Organs of Mice. I. Morphology, Quantitation, Tissue Distribution.
- J. Exp. Med.*
1973. 137: 1142–1162.
-
- Ralph M Steinman and Zanvil A. Cohn*

BRIEF REVIEWS

- 27 Roundtrip Ticket for Secretory IgA: Role in Mucosal Homeostasis?
-
- Blaise Corthésy*

CUTTING EDGE

- 33 Cutting Edge: Allele-Specific and Peptide-Dependent Interactions between KIR3DL1 and HLA-A and HLA-B
-
- Hathairat Thananchai, Geraldine Gillespie, Maureen P. Martin, Arman Bashirova, Nobuyo Yawata, Makoto Yawata, Philippa Easterbrook, Daniel W. McVicar, Katsumi Maenaka, Peter Parham, Mary Carrington, Tao Dong, and Sarah Rowland-Jones*

CELLULAR IMMUNOLOGY AND IMMUNE REGULATION

- 39 GM-CSF Production by Autoreactive T Cells Is Required for the Activation of Microglial Cells and the Onset of Experimental Autoimmune Encephalomyelitis
-
- Eugene D. Ponomarev, Leah P. Shriver, Katarzyna Maresz, Joao Pedras-Vasconcelos, Daniela Verthelyi, and Bonnie N. Dittel*

- 49 B Cell Lymphoma 10 Is Essential for Fc
- ϵ
- R-Mediated Degranulation and IL-6 Production in Mast Cells
-
- Yuhong Chen, Bhanu P. Pappu, Hu Zeng, Liqian Xue, Stephan W. Morris, Xin Lin, Renren Wen, and Demin Wang*

- 58 Sensitivity of NK1.1-Negative NKT Cells to Transgenic BATF Defines a Role for Activator Protein-1 in the Expansion and Maturation of Immature NKT Cells in the Thymus
-
- Alfred J. Zullo, Kamel Benlagha, Albert Bendelac, and Elizabeth J. Taparowsky*

On the cover: Immunostaining of occludin (red) on brain capillary endothelial cells (BCEC) cocultured with GFP-dendritic cells (DC) (green). An MIP-1 α -induced deep invasion of GFP-DC into BCEC monolayer can be prevented by MMP inhibitor resulting in improved occludin distribution and suggesting an importance of MMPs during DC traffic in the CNS. Zozulya, A. L., E. Reinke, D. C. Baiu, J. Karman, M. Sandor, and Z. Fabry. 2007. Dendritic cell transmigration through brain microvessel endothelium is regulated by MIP-1 α chemokine and matrix metalloproteinases. *J. Immunol.* 178: 520–529.

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 © 2006 by The American Association of Immunologists, Inc.

- 67 Regulation of Memory Antibody Levels: The Role of Persisting Antigen versus Plasma Cell Life Span
Dominique Gatto, Stephen W. Martin, Juliana Bessa, Erica Pellicioli, Philippe Saudan, Heather J. Hinton, and Martin F. Bachmann
- 77 Granulysin-Mediated Tumor Rejection in Transgenic Mice
Lisa P. Huang, Shu-Chen Lyu, Carol Clayberger, and Alan M. Krensky
- 85 Tumor-Primed Human Natural Killer Cells Lyse NK-Resistant Tumor Targets: Evidence of a Two-Stage Process in Resting NK Cell Activation
Janet North, Ismail Bakhsb, Chloe Marden, Hanna Pittman, Elena Addison, Cristina Navarrete, Robert Anderson, and Mark W. Lowdell
- 95 Apoptotic Splenocytes Drive the Autoimmune Response to Poly(ADP-ribose) Polymerase 1 in a Murine Model of Lupus
Thomas Grader-Beck, Livia Casciola-Rosen, Thomas J. Lang, Roman Puliaev, Antony Rosen, and Charles S. Via
- 103 Regulation of Reactive Oxygen Species by *Atm* Is Essential for Proper Response to DNA Double-Strand Breaks in Lymphocytes
Keisuke Ito, Keiyo Takubo, Fumio Arai, Hitoshi Satoh, Saboko Matsuoka, Masako Ohmura, Kazuhito Naka, Masaki Azuma, Kana Miyamoto, Kentaro Hosokawa, Yasuo Ikeda, Tak W. Mak, Toshio Suda, and Atsushi Hirao
- 111 Spleen Tyrosine Kinase (Syk), a Novel Target of Curcumin, Is Required for B Lymphoma Growth
Murali Gururajan, Trivikram Dasu, Seif Shabidain, C. Darrell Jennings, Darrell A. Robertson, Vivek M. Rangnekar, and Subbarao Bondada
- 122 Activation of Type B T Cells after Protein Immunization Reveals Novel Pathways of In Vivo Presentation of Peptides
Scott B. Lovitch, Thomas J. Esparza, George Schweitzer, Jeremy Herzog, and Emil R. Unanue
- 134 Feedback Regulation of Murine Autoimmunity via Dominant Anti-Inflammatory Effects of Interferon γ
Alfredo Minguela, Silvia Pastor, Wentao Mi, James A. Richardson, and E. Sally Ward
- 145 1,25-Dihydroxyvitamin D₃ Selectively Modulates Tolerogenic Properties in Myeloid but Not Plasmacytoid Dendritic Cells
Giuseppe Penna, Susana Amuchastegui, Nadia Giarratana, Kenn C. Daniel, Marisa Vulcano, Silvano Sozzani, and Luciano Adorini
- 154 Dectin-1 Interaction with Tetraspanin CD37 Inhibits IL-6 Production
Friederike Meyer-Wentrup, Carl G. Figdor, Marleen Ansems, Peter Brossart, Mark D. Wright, Gosse J. Adema, and Annemiek B. van Spruiel
- 163 Genetic Manipulation of CD74 in Mouse Strains of Different Backgrounds Can Result in Opposite Responses to Central Nervous System Injury
Hadas Schori, Ravid Shechter, Idit Shachar, and Michal Schwartz
- 172 Th3 Cells in Peripheral Tolerance. II. TGF- β -Transgenic Th3 Cells Rescue IL-2-Deficient Mice from Autoimmunity
Yijun Carrier, Jing Yuan, Vijay K. Kuchroo, and Howard L. Weiner
- 179 Th3 Cells in Peripheral Tolerance. I. Induction of Foxp3-Positive Regulatory T Cells by Th3 Cells Derived from TGF- β T Cell-Transgenic Mice
Yijun Carrier, Jing Yuan, Vijay K. Kuchroo, and Howard L. Weiner
- 186 Essential Roles of c-Rel in TLR-Induced *IL-23 p19* Gene Expression in Dendritic Cells
Ruaidhri J. Carmody, Qingguo Ruan, Hsiou-Chi Liou, and Youhai H. Chen
- 192 Osteoprotegerin Reduces the Serum Level of Receptor Activator of NF- κ B Ligand Derived from Osteoblasts
Yuko Nakamichi, Nobuyuki Udagawa, Yasuhiro Kobayashi, Midrori Nakamura, Yohei Yamamoto, Teruhito Yamashita, Toshihide Mizoguchi, Masahiro Sato, Makio Mogi, Josef M. Penninger, and Naoyuki Takahashi

- 201 $\alpha_1\beta_1$ Integrin⁺ and Regulatory Foxp3⁺ T Cells Constitute Two Functionally Distinct Human CD4⁺ T Cell Subsets Oppositely Modulated by TNF α Blockade
Itamar Goldstein, Shomron Ben-Horin, Alexander Koltakov, Helly Chermoshnuk, Victor Polevoy, Yakov Berkun, Ninette Amariglio, and Ilan Bank
- 211 IFN- γ Negatively Regulates CpG-Induced IL-10 in Bone Marrow-Derived Dendritic Cells
Rafael R. Flores, Kelly A. Diggs, Lauren M. Tait, and Penelope A. Morel
- 219 Comparative Roles of IL-4, IL-13, and IL-4R α in Dendritic Cell Maturation and CD4⁺ Th2 Cell Function
Dianne C. Webb, Yeping Cai, Klaus I. Matthaei, and Paul S. Foster
- 228 Role of the Intracellular Domain of IL-7 Receptor in T Cell Development
Qiong Jiang, Jiaqiang Huang, Wen Qing Li, Tiziana Cavinato, Jonathan R. Keller, and Scott K. Durum
- 235 Functional Polymorphism of the KIR3DL1/S1 Receptor on Human NK Cells
Geraldine M. O'Connor, Kieran J. Guinan, Rodat T. Cunningham, Derek Middleton, Peter Parham, and Clair M. Gardiner
- 242 Cytokine-Dependent Blimp-1 Expression in Activated T Cells Inhibits IL-2 Production
Dapeng Gong and Thomas R. Malek
- 253 Multiple NF- κ B and IFN Regulatory Factor Family Transcription Factors Regulate CCL19 Gene Expression in Human Monocyte-Derived Dendritic Cells
Taija E. Pietilä, Ville Veckman, Anne Lehtonen, Rongtuan Lin, John Hiscott, and Ilkka Julkunen
- 262 IL-7/STAT5 Cytokine Signaling Pathway Is Essential but Insufficient for Maintenance of Naive CD4⁺ T Cell Survival in Peripheral Lymphoid Organs
Yoh-ichi Seki, Jianying Yang, Mariko Okamoto, Shinya Tanaka, Ryo Goitsuka, Michael A. Farrar, and Masato Kubo
- 271 IL-6 Produced by Dendritic Cells from Lupus-Prone Mice Inhibits CD4⁺CD25⁺ T Cell Regulatory Functions
Suigui Wan, Changqing Xia, and Laurence Morel
- 280 IL-2 Receptor β -Dependent STAT5 Activation Is Required for the Development of Foxp3⁺ Regulatory T Cells
Matthew A. Burchill, Jianying Yang, Christine Vogtenhuber, Bruce R. Blazar, and Michael A. Farrar
- 291 CD25⁺CD4⁺ Regulatory T Cell Migration Requires L-Selectin Expression: L-Selectin Transcriptional Regulation Balances Constitutive Receptor Turnover
Guglielmo M. Venturi, Rochelle M. Conway, Douglas A. Steeber, and Thomas F. Tedder
- 301 FoxP3⁺ T Cells Undergo Conventional First Switch to Lymphoid Tissue Homing Receptors in Thymus but Accelerated Second Switch to Nonlymphoid Tissue Homing Receptors in Secondary Lymphoid Tissues
Jee H. Lee, Seung G. Kang, and Chang H. Kim
- 312 The Critical Role of Protein Kinase C- θ in Fas/Fas Ligand-Mediated Apoptosis
Santhakumar Manicassamy and Zuoming Sun
- 320 Selective Survival of Naturally Occurring Human CD4⁺CD25⁺Foxp3⁺ Regulatory T Cells Cultured with Rapamycin
Laura Strauss, Theresa L. Whiteside, Ashley Knights, Christoph Bergmann, Alexander Knuth, and Alfred Zippelius
- 330 Loss of Src Homology Region 2 Domain-Containing Protein Tyrosine Phosphatase-1 Increases CD8⁺ T Cell-APC Conjugate Formation and Is Associated with Enhanced In Vivo CTL Function
Jean G. Sathish, Garry Dolton, Frances G. LeRoy, and R. James Matthews
- 338 *Mycobacterium leprae* Inhibits Dendritic Cell Activation and Maturation
Rose Ann Murray, Mahveen Ruby Siddiqui, Megan Mendillo, James Krabenbuhl, and Gilla Kaplan

MOLECULAR AND STRUCTURAL IMMUNOLOGY

- 345 Brahma-Related Gene 1-Dependent STAT3 Recruitment at IL-6-Inducible Genes
Zuyao Ni and Rod Bremner

- 352 Decay-Accelerating Factor Must Bind Both Components of the Complement Alternative Pathway C3 Convertase to Mediate Efficient Decay
Claire L. Harris, David M. Pettigrew, Susan M. Lea, and B. Paul Morgan
- 360 Essential Role of GATA Transcriptional Factors in the Activation of Mast Cells
Akio Masuda, Katsunori Hashimoto, Toyoharu Yokoi, Takeshi Doi, Tatsuhiko Kodama, Hiroaki Kume, Kinji Ohno, and Tetsuya Matsuguchi
- 369 Critical Residues at the Ly49 Natural Killer Receptor's Homodimer Interface Determine Functional Recognition of m157, a Mouse Cytomegalovirus MHC Class I-Like Protein
Agnieszka Kielczewska, Hee-Seo Kim, Lewis L. Lanier, Nazzareno Dimasi, and Silvia M. Vidal
- 378 Distinct and Shared Transcriptomes Are Regulated by Microphthalmia-Associated Transcription Factor Isoforms in Mast Cells
Amir H. Shablaee, Stephanie Brandal, Youl-Nam Lee, Chunfa Jie, and Clifford M. Takemoto
- 389 Cross-Reactivity and 1.4-Å Crystal Structure of *Malassezia sympodialis* Thioredoxin (Mala s 13), a Member of a New Pan-Allergen Family
Andreas Limacher, Andreas G. Glaser, Christa Meier, Peter Schmid-Grendelmeier, Sabine Zeller, Leonardo Scapozza, and Reto Cramer

HOST DEFENSE

- 397 Lamprey TLRs with Properties Distinct from Those of the Variable Lymphocyte Receptors
Akihiro Ishii, Aya Matsuo, Hirofumi Sawa, Tadayuki Tsujita, Kyoko Shida, Misako Matsumoto, and Tsukasa Seya
- 407 IL-22 Participates in an Innate Anti-HIV-1 Host-Resistance Network through Acute-Phase Protein Induction
Dorothee Missé, Hans Yssel, Daria Trabattoni, Christelle Oblet, Sergio Lo Caputo, Francesco Mazzotta, Jérôme Pène, Jean-Paul Gonzalez, Mario Clerici, and Francisco Veas
- 416 Regulation of Leukocyte Degranulation by cGMP-Dependent Protein Kinase and Phosphoinositide 3-Kinase: Potential Roles in Phosphorylation of Target Membrane SNARE Complex Proteins in Rat Mast Cells
Masakatsu Nanamori, Jia Chen, Xiaoping Du, and Richard D. Ye
- 428 3D7-Derived *Plasmodium falciparum* Erythrocyte Membrane Protein 1 Is a Frequent Target of Naturally Acquired Antibodies Recognizing Protein Domains in a Particular Pattern Independent of Malaria Transmission Intensity
Louise Joergensen, Lasse S. Vestergaard, Louise Turner, Pamela Magistrado, John P. Lusingu, Martha Lemnge, Thor G. Theander, and Anja T. R. Jensen

INFLAMMATION

- 436 A Novel Function for Galectin-1 at the Crossroad of Innate and Adaptive Immunity: Galectin-1 Regulates Monocyte/Macrophage Physiology through a Nonapoptotic ERK-Dependent Pathway
Paula Barrionuevo, Macarena Beigier-Bompadre, Juan M. Illarregui, Marta A. Toscano, Germán A. Bianco, Martín A. Isturiz, and Gabriel A. Rabinovich
- 446 Opposite Regulation of IL-1 β and Secreted IL-1 Receptor Antagonist Production by Phosphatidylinositide-3 Kinases in Human Monocytes Activated by Lipopolysaccharides or Contact with T Cells
Nicolas Molnarfi, Lyssia Gruaz, Jean-Michel Dayer, and Danielle Burger
- 455 Dysregulation of Src Family Kinases in Mast Cells from Epilepsy-Resistant ASK versus Epilepsy-Prone EL Mice
Jiro Kitaura, Yuko Kawakami, Mari Maeda-Yamamoto, Vaclav Horejsi, and Toshiaki Kawakami
- 463 Differential Regulation of Cytokine Release and Leukocyte Migration by Lipopolysaccharide-Stimulated Primary Human Lung Alveolar Type II Epithelial Cells and Macrophages
Andrew J. Thorley, Paul A. Ford, Mark A. Giembycz, Peter Goldstraw, Alan Young, and Teresa D. Tetley

- 474 The Net Effect of Costimulatory Blockers Is Dependent on the Subset and Activation Status of the Autoreactive T Cells
Ping Zhang, Deming Sun, Yan Ke, Henry J. Kaplan, and Hui Shao
- 480 Critical Role of the Fc Receptor γ -Chain on APCs in the Development of Allergen-Induced Airway Hyperresponsiveness and Inflammation
Kenichi Kitamura, Katsuyuki Takeda, Toshiyuki Koya, Nobuaki Miyahara, Taku Kodama, Azzeddine Dakhama, Toshiyuki Takai, Atsushi Hirano, Mitsune Tanimoto, Mine Harada, and Erwin W. Gelfand
- 489 TLR3-Mediated Synthesis and Release of *Eotaxin-1/CCL11* from Human Bronchial Smooth Muscle Cells Stimulated with Double-Stranded RNA
Kyoko Niimi, Koichiro Asano, Yoshiki Shiraishi, Takeshi Nakajima, Misa Wakaki, Junko Kagyo, Takahisa Takihara, Yusuke Suzuki, Koichi Fukunaga, Tetsuya Shiomi, Tsuyoshi Oguma, Koichi Sayama, Kazuhiro Yamaguchi, Yukikazu Natori, Misako Matsumoto, Tsukasa Seya, Mutsuo Yamaya, and Akitoshi Ishizaka
- 496 Protectin D1 Is Generated in Asthma and Dampens Airway Inflammation and Hyperresponsiveness
Bruce D. Levy, Payal Kohli, Katherine Gotlinger, Oliver Haworth, Song Hong, Shamsah Kazani, Elliot Israel, Kathleen J. Haley, and Charles N. Serhan
- 503 Hepatitis B Virus Sensitizes Hepatocytes to TRAIL-Induced Apoptosis through Bax
Xiaohong Liang, Yugang Liu, Qiu Zhang, Lifen Gao, Lihui Han, Chunhong Ma, Lining Zhang, Youhai H. Chen, and Wensheng Sun
- 511 IL-13 Is Pivotal in the Fibro-Obliterative Process of Bronchiolitis Obliterans Syndrome
Michael P. Keane, Brigitte N. Gomperts, Samuel Weigt, Ying Ying Xue, Marie D. Burdick, Hiromi Nakamura, David A. Zisman, Abbas Ardehali, Rajan Saggarr, Joseph P. Lynch III, Cory Hogaboam, Steven L. Kunkel, Nicholas W. Lukacs, David J. Ross, Michael J. Grusby, Robert M. Strieter, and John A. Belperio
- 520 Dendritic Cell Transmigration through Brain Microvessel Endothelium Is Regulated by MIP-1 α Chemokine and Matrix Metalloproteinases
Alla L. Zozulya, Emily Reinke, Dana C. Baiu, Jozsef Karman, Matyas Sandor, and Zsuzsanna Fabry
- 530 C-Reactive Protein-Mediated Suppression of Nephrotoxic Nephritis: Role of Macrophages, Complement, and Fc γ Receptors
Wilfredo Rodriguez, Carolyn Mold, Milena Kataranovski, Julie A. Hutt, Lorraine L. Marnell, J. Sjef Verbeek, and Terry W. Du Clos
- 539 Urinary Bladder Epithelium Antigen Induces CD8⁺ T Cell Tolerance, Activation, and Autoimmune Response
Wujiang Liu, David P. Evanoff, Xiaohong Chen, and Yi Luo

CLINICAL IMMUNOLOGY

- 547 A Local Antigen-Driven Humoral Response Is Present in the Inflammatory Myopathies
Elizabeth M. Bradshaw, Ana Orihuela, Shannon L. McArde, Mohammad Salajegheh, Anthony A. Amato, David A. Hafler, Steven A. Greenberg, and Kevin C. O'Connor
- 557 B Cell Clonal Expansion and Somatic Hypermutation of Ig Variable Heavy Chain Genes in the Synovial Membrane of Patients with Osteoarthritis
Reng-Rong Da, Yufen Qin, Dominique Baeten, and Yiping Zhang
- 566 Elicitation of T Cell Responses to Histologically Unrelated Tumors by Immunization with the Novel Cancer-Testis Antigen, Brother of the Regulator of Imprinted Sites
Anahit Ghochikyan, Mikayel Mkrtichyan, Dmitri Loukinov, Gregory Mamikonyan, Svetlana D. Pack, Nina Movsesyan, Thomas E. Ichim, David H. Cribbs, Victor V. Lobanenkov, and Michael G. Agadjanyan
- 574 Prolonged, NK Cell-Mediated Antitumor Effects of Suicide Gene Therapy Combined with Monocyte Chemoattractant Protein-1 against Hepatocellular Carcinoma
Tomoya Tsuchiyama, Yasunari Nakamoto, Yoshio Sakai, Yohei Marukawa, Masaaki Kitahara, Naofumi Mukaida, and Shuichi Kaneko
- 584 Suppression of Skin Lesions by Transdermal Application of CpG-Oligodeoxynucleotides in NC/Nga Mice, a Model of Human Atopic Dermatitis
Joe Inoue and Yukihiko Aramaki

- 592 An Inflammatory Pathway of IFN- γ Production in Coronary Atherosclerosis
Hooman Ranjbaran, Seth I. Sokol, Amy Gallo, Raymond E. Eid, Alexander O. Iakimov, Alessio D'Alessio, John R. Kapoor, Shamsuddin Akhtar, Christopher J. Howes, Mihaela Aslan, Steven Pfau, Jordan S. Pober, and George Tellides
- 605 Th1 and Type 1 Cytotoxic T Cells Dominate Responses in T-bet Overexpression Transgenic Mice That Develop Contact Dermatitis
Kazusa Ishizaki, Akiko Yamada, Keigyou Yoh, Takako Nakano, Homare Shimohata, Atsuko Maeda, Yuki Fujioka, Naoki Morito, Yasuhiro Kawachi, Kazuko Shibuya, Fujio Otsuka, Akira Shibuya, and Satoru Takahashi
- 613 Streptococcal Preparation OK-432 Promotes Fusion Efficiency and Enhances Induction of Antigen-Specific CTL by Fusions of Dendritic Cells and Colorectal Cancer Cells
Shigeo Koido, Eiichi Hara, Sadamu Homma, Akira Torii, Makoto Mitsunaga, Satoru Yanagisawa, Yoichi Toyama, Hidejiro Kawahara, Michiaki Watanabe, Seiya Yoshida, Susumu Kobayashi, Katsuhiko Yanaga, Kiyotaka Fujise, and Hisao Tajiri
- 623 Author Index
- 626 Information for Authors
- 635 AAI Membership Application
- 636 AAI Trainee Membership Application