



This information is current as  
of November 23, 2020.

**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>





---

TABLE OF CONTENTS

COMMENTARY

- 4905 Apoptosis: O Death, Where Is Thy Sting?  
*Pierre A. Henkart*

CELLULAR IMMUNOLOGY AND IMMUNE REGULATION

- 4909 In Vivo Tolerance Induction and Associated Cytokine Production by Subsets of Murine CD4<sup>+</sup> T Cells  
*Elton B. Chu, Monte V. Hobbs, David N. Ernst, and William O. Weigle*
- 4915 Peptide and Protein Antigens Require Distinct Antigen-Presenting Cell Subsets for the Priming of CD4<sup>+</sup> T Cells  
*Stephanie Constant, Derek Sant'Angelo, Theresa Pasqualini, Thomas Taylor, Ditza Levin, Richard Flavell, and Kim Bottomly*
- 4924 Heavy Chain V Gene-Specific Elimination of B Cells During the Pre-B Cell to B Cell Transition  
*Debra J. Decker, Gregory H. Kline, Tracy A. Hayden, Samantha N. Zaharevitz, and Norman R. Klinman*
- 4936 Antigen-Driven Differentiation of Naive Ig-Transgenic B Cells In Vitro  
*Lynn B. Dustin, Eric D. Bullock, Yoshio Hamada, Takachika Azuma, and Dennis Y. Loh*
- 4950 IL-12 Directly Enhances In Vitro Murine Erythropoiesis in Combination with IL-4 and Stem Cell Factor  
*Ingunn Dybedal, Stig Larsen, and Sten E. W. Jacobsen*
- 4956 cAMP-Independent Effects of Cholera Toxin on B Cell Activation: III. Cholera Toxin A Subunit-Mediated ADP-Ribosylation Acts Synergistically with Ionomycin or IL-4 to Induce B Cell Proliferation  
*Mark L. Francis, Ian Okazaki, Joel Moss, Alexander Kurosky, Ligia M. T. Pecanha, and James J. Mond*
- 4965 Nerve Growth Factor Induces Activation of MAP-Kinase and p90<sup>rsk</sup> in Human B Lymphocytes  
*Richard A. Franklin, Chaya Brodie, Isaac Melamed, Naohiro Terada, Joseph J. Lucas, and Erwin W. Gelfand*

- 4973 **T Lymphocyte Locomotion in a Three-Dimensional Collagen Matrix: Expression and Function of Cell Adhesion Molecules**  
*Peter Friedl, Peter B. Noble, and Kurt S. Zänker*
- 4986 **In CD8<sup>+</sup> T Cell-Deficient *lpr/lpr* Mice, CD4<sup>+</sup>B220<sup>+</sup> and CD4<sup>+</sup>B220<sup>-</sup> T Cells Replace B220<sup>+</sup> Double-Negative T Cells as the Predominant Populations in Enlarged Lymph Nodes**  
*Thomas Giese and Wendy F. Davidson*
- 4996 **The CD40 Ligand Expressed by Human B Cells Costimulates B Cell Responses**  
*Amrie C. Grammer, Mary C. Bergman, Yasushi Miura, Kenji Fujita, Laurie S. Davis, and Peter E. Lipsky*
- 5011 **In Vitro Maturation of Clonal CD4<sup>+</sup>CD8<sup>+</sup> Cell Lines in Response to TCR Engagement**  
*Tim Groves, Peter Katis, Zarina Madden, Kanchana Manickam, Dale Ramsden, Gillian Wu, and Cynthia J. Guidos*
- 5023 **Replacement of N-Glycosylation Sites on the MHC Class II E $\alpha$  Chain: Effect on Thymic Selection and Peripheral T Cell Activation**  
*Sho Ishikawa, Czeslawa Kowal, Barry Cole, Cole Thomson, and Betty Diamond*
- 5030 **Transfection of TCR  $\alpha$ -Chains into Suppressor and T Helper Cell Hybridomas: Production of Suppressor Factors with Predicted Antigen Specificity**  
*Vijay K. Kuchroo, Michael C. Byrne, Edward Greenfield, Matthew J. Whitters, Eric A. Nalefsky, Anjana Rao, Mary Collins, and Martin E. Dorf*
- 5039 **Lytic Reaction of In Vivo Primed Peritoneal Exudate CTL: Induction of High-Conductance Single Channels in the Target Cell Membrane**  
*Revital Lavy, Yuval H. Mika, Dalia Rosen, Gideon Berke, and Ofer Binah*
- 5049 **Met-Enkephalin-Containing Peptides Encoded by Proenkephalin A mRNA Expressed in Activated Murine Thymocytes Inhibit Thymocyte Proliferation**  
*Kristin M. Linner, Heidi E. Quist, and Burt M. Sharp*
- 5061 **IL-9 Induces Expression of Granzymes and High-Affinity IgE Receptor in Murine T Helper Clones**  
*Jamila Louahed, Abdennaïm Kermouni, Jacques Van Snick, and Jean-Christophe Renauld*
- 5071 **Dendritic Cells Produce IL-12 and Direct the Development of Th1 Cells from Naive CD4<sup>+</sup> T Cells**  
*Steven E. Macatonia, Nancy A. Hosken, Mark Litton, Paulo Vieira, Chyi-Song Hsieh, Janice A. Culpepper, Maria Wysocka, Giorgio Trinchieri, Kenneth M. Murphy, and Anne O'Garra*
- 5080 **Adoptive Cell Transfer of Contact Sensitivity-Initiation Mediated by Nonimmune Cells Sensitized with Monoclonal IgE Antibodies: Dependence on Host Skin Mast Cells**  
*Hiroshi Matsuda, Hiroko Ushio, Vipin Paliwal, Wlodzimierz Ptak, and Philip W. Askenase*
- 5093 **Synergistic Effects of IL-7 and IL-12 on Human T Cell Activation**  
*Priti Tandon Mehrotra, Angus J. Grant, and Jay P. Siegel*

- 5103 Cell Expansion and Growth Arrest Phases during the Transition from Precursor (CD4<sup>-</sup>8<sup>-</sup>) to Immature (CD4<sup>+</sup>8<sup>+</sup>) Thymocytes in Normal and Genetically Modified Mice  
*Claude Pénit, Bruno Lucas, and Florence Vasseur*
- 5114 Effect of IL-12 on Immune Suppression and Suppressor Cell Induction by Ultraviolet Radiation  
*David A. Schmitt, Laurie Owen-Schaub, and Stephen E. Ullrich*
- 5121 Cellular Distribution and Costimulatory Function of Rat CD28: Regulated Expression During Thymocyte Maturation and Induction of Cyclosporin A Sensitivity of Costimulated T Cell Responses by Phorbol Ester  
*Michael Tacke, Georgina J. Clark, Margeret J. Dallman, and Thomas Hünig*
- 5128 Colony-Stimulating Factor-1 Secreted by Fibroblasts Promotes the Growth of Dendritic Cell Lines (XS Series) Derived from Murine Epidermis  
*Akira Takashima, Dale Edelbaum, Toshiyuki Kitajima, Richard K. Shaddock, Gary L. Gilmore, Shan Xu, R. Stan Taylor, Paul R. Bergstresser, and Kiyoshi Arizumi*
- 5136 Up-Regulation of Recombination Activating Gene Expression by Signal Transduction Through the Surface Ig Receptor  
*Laurent K. Verkoczy, B. J. Niclas Stiernhdm, and Neil L. Berinstein*
- 5144 Production of IL-5 by Human NK Cells and Regulation of IL-5 Secretion by IL-4, IL-10, and IL-12  
*Hilary S. Warren, Beverley F. Kinnear, Joseph H. Phillips, and Lewis L. Lanier*
- 5153 Requirement for Peptide in Alloreactive CD4<sup>+</sup> T Cell Recognition of Class II MHC Molecules  
*Dominique A. Weber, Nancy K. Terrell, Yuan Zhang, Gail Strindberg, John Martin, Alexander Rudensky, and Ned S. Braunstein*

## MOLECULAR AND STRUCTURAL IMMUNOLOGY

- 5165 T Cell Development in TCR- $\alpha\beta$  Transgenic Mice: Analysis Using V(D)J Recombination Substrates  
*Myriam Capone, John Curnow, Gaëlle Bouvier, Pierre Ferrier, and Branka Horvat*
- 5173 Aglycosylated and Phosphatidylinositol-Anchored MHC Class I Molecules Are Associated with Calnexin: Evidence Implicating the Class I-Connecting Peptide Segment in Calnexin Association  
*Beatriz M. Carreno, Kathy L. Schreiber, David J. McKean, Iwona Stroynowski, and Ted H. Hansen*
- 5181 Activation of Transcription by Binding of NF-E1 (YY1) to a Newly Identified Element in the First Exon of the Human DR $\alpha$  Gene  
*Thomas Hehlhans and Jack L. Strominger*
- 5188 Structure of the Human C7 Gene and Comparison with the C6, C8A, C8B, and C9 Genes  
*Michael J. Hobart, Barbara A. Fernie, and Richard G. DiScipio*

- 5195 The Role of c-Myb or a Related Factor in Regulating the T Cell Receptor  $\gamma$  Gene Enhancer  
*Yun-hui H. Hsiang, Jacki P. Goldman, and David H. Raulet*
- 5205 Dissociation of  $\beta_2$ -Microglobulin from HLA Class I Heavy Chains Correlates with Acquisition of Epitopes in the Cytoplasmic Tail  
*Ann-Margaret Little, Elfriede Nöbner, and Peter Parham*
- 5216 Myelin Basic Protein Peptide Complexes with the Class II MHC Molecules I-A<sup>u</sup> and I-A<sup>k</sup> Form and Dissociate Rapidly at Neutral pH  
*Karen Mason, Dan W. Denney, Jr., and Harden M. McConnell*
- 5228 DNA Sequencing of the Gene Encoding a Bacterial Superantigen, *Yersinia pseudotuberculosis*-Derived Mitogen (YPM), and Characterization of the Gene Product, Cloned YPM  
*Tohru Miyoshi-Akiyama, Akio Abe, Hidehito Kato, Kazuyoshi Kawahara, Hisashi Narimatsu, and Takehiko Uchiyama*
- 5235 The Interferon-Stimulated Response Element and a  $\kappa$ B Site Mediate Synergistic Induction of Murine IP-10 Gene Transcription by IFN- $\gamma$  and TNF- $\alpha$   
*Yoshihiro Ohmori and Thomas A. Hamilton*
- 5245 Effect of Amino Acid Substitutions Within the Region 62-76 of I-A $\beta^b$  on Binding with and Antigen Presentation of *Torpedo* Acetylcholine Receptor  $\alpha$ -Chain Peptide 146-162  
*Minako Oshima and M. Zouhair Atassi*
- 5255 Cyclic AMP Inhibits Expression of the IL-2 Gene Through the Nuclear Factor of Activated T Cells (NF-AT) Site, and Transfection of NF-AT cDNAs Abrogates the Sensitivity of EL-4 Cells to Cyclic AMP  
*Lisako Tsuruta, Hyun-Jun Lee, Esteban S. Masuda, Naoko Koyano-Nakagawa, Naoko Arai, Ken-ichi Arai, and Takashi Yokota*
- 5265 Assembly of IgM: Role of Disulfide Bonding and Noncovalent Interactions  
*Erik J. Wiersma and Marc J. Shulman*

## HOST DEFENSE

- 5273 Growth Inhibition of *Candida albicans* Hyphae by CD8<sup>+</sup> Lymphocytes  
*David W. A. Beno, Axel G. Stöver, and Herbert L. Mathews*
- 5282 IL-2 Enhances the Function of Recombinant Poxvirus-Based Vaccines in the Treatment of Established Pulmonary Metastases  
*Vincenzo Bronte, Kangla Tsung, Jay B. Rao, Pauline W. Chen, Michael Wang, Steven A. Rosenberg, and Nicholas P. Restifo*
- 5293  $\alpha_4$  Integrin Directs Virus-Activated CD8<sup>+</sup> T Cells to Sites of Infection  
*J. Pravsgaard Christensen, E. C. Andersson, A. Scheynius, O. Marker, and A. Randrup Thomsen*
- 5302 5-Fluorocytosine-Induced Eradication of Murine Adenocarcinomas Engineered to Express the Cytosine Deaminase Suicide Gene Requires Host Immune Competence and Leaves an Efficient Memory  
*Manuela Consalvo, Craig A. Mullen, Andrea Modesti, Piero Musiani, Alessandra Allione, Federica Cavallo, Mirella Giovarelli, and Guido Forni*

- 5313 Stimulation of TCR V $\gamma$ 3 Cells by Gram-Negative Bacteria  
*Georges Leclercq and Jean Plum*
- 5320 IL-12 Is Required for Natural Killer Cell Activation and Subsequent T Helper 1 Cell Development in Experimental Leishmaniasis  
*Tanya Scharton-Kersten, Luis C. C. Afonso, Maria Wysocka, Giorgio Trinchieri, and Phillip Scott*
- 5331 Increased Opsonization of a *prtH*-Defective Mutant of *Porphyromonas gingivalis* W83 Is Caused by Reduced Degradation of Complement-Derived Opsonins  
*Harvey A. Schenkein, Hansel M. Fletcher, Mary Bodnar, and Francis L. Macrina*
- 5338 Development of Antimalaria Immunity in Mice Lacking IFN- $\gamma$  Receptor  
*Moriya Tsuji, Yasushi Miyahira, Ruth S. Nussenzweig, Michel Aguet, Martin Reichel, and Fidel Zavala*
- 5345 Lymph Node (but Not Spleen) Invasion by Murine Lymphoma Is Both CD44- and Hyaluronate-Dependent  
*Muayad A. Zahalka, Elimelech Okon, Uwe Gosslar, Bernhard Holzmann, and David Naor*

## INFLAMMATION

- 5356 Glycolipid Ligands For Selectins Support Leukocyte Tethering and Rolling Under Physiologic Flow Conditions  
*Ronen Alon, Ten Feizi, Chun-Ting Yuen, Robert C. Fuhlbrigge, and Timothy A. Springer*
- 5367 Comparison of the Binding of C3S and C3F to Complement Receptors Types 1, 2, and 3  
*István Bartók and Mark J. Walport*
- 5376 Biologic Activities of the  $\beta$ -Chemokine TCA3 on Neutrophils and Macrophages  
*Shamala Devi, Joseph Laning, Yi Luo, and Martin E. Dorf*
- 5384 Tenidap-Modulated Proinflammatory Cytokine Activation of a Monocyte Cell Line  
*Simon Golding, Paul Emery, and Stephen P. Young*
- 5391 Activation of the Mitogen-Activated Protein Kinase/Cytosolic Phospholipase A<sub>2</sub> Pathway in a Rat Mast Cell Line: Indications of Different Pathways for Release of Arachidonic Acid and Secretory Granules  
*Noriyasu Hirasawa, Francesca Santini, and Michael A. Beaven*
- 5403 Antibacterial Proteins of Granulocytes Differ in Interaction with Endotoxin: Comparison of Bactericidal/Permeability-Increasing Protein, p15s, and Defensins  
*Ofer Levy, Chean Eng Ooi, Peter Elsbach, Martin E. Doerfler, Robert I. Lehrer, and Jerrold Weiss*
- 5411 TNF- $\alpha$  Mediates Recruitment of Neutrophils and Eosinophils During Airway Inflammation  
*Nicholas W. Lukacs, Robert M. Strieter, Stephen W. Chensue, Michael Widmer, and Steven L. Kunkel*

- 5418 Neutrophil Accumulation and Activation by Homologous IL-8 in Rabbits: IL-8 Induces Destruction of Cartilage and Production of IL-1 and IL-1 Receptor Antagonist In Vivo  
*Akihiro Matsukawa, Teizo Yoshimura, Takako Maeda, Susumu Ohkawara, Katsumasa Takagi, and Masaru Yoshinaga*
- 5426 Characterization of a Complement Receptor 2 (CR2, CD21) Ligand Binding Site for C3: An Initial Model of Ligand Interaction with Two Linked Short Consensus Repeat Modules  
*Hector Molina, Stephen J. Perkins, Joel Guthridge, John Gorka, Taroh Kinoshita, and V. Michael Holers*
- 5436 Dexamethasone Up-Regulates A<sub>3</sub> Adenosine Receptors in Rat Basophilic Leukemia (RBL-2H3) Cells  
*Vickram Ramkumar, Marty Wilson, David N. Dhanraj, Tom W. Gettys, and Hydar Ali*
- 5444 Anti-Inflammatory Effects of an Adenosine Kinase Inhibitor: Decreased Neutrophil Accumulation and Vascular Leakage  
*Sanna Rosengren, Gary W. Bong, and Gary S. Firestein*
- 5452 Granulocyte Activation Via a Binding Site near the C-Terminal Region of Complement Receptor Type 3  $\alpha$ -Chain (CD11b) Potentially Involved in Intramembrane Complex Formation With Glycosylphosphatidylinositol-Anchored Fc $\gamma$ RIIIB (CD16) Molecules  
*Johannes Stöckl, Otto Majdic, Winfried F. Pickl, Alexander Rosenkranz, Elisabeth Prager, Elisabeth Gschwantler, and Walter Knapp*
- 5464 Inherited Human Complement C5 Deficiency: Nonsense Mutations in Exons 1 (Gln to Stop) and 36 (Arg<sup>1458</sup> to Stop) and Compound Heterozygosity in Three African-American Families  
*Xuefeng Wang, Daniel T. Fleischer, William T. Whitehead, David L. Haviland, Stephen I. Rosenfeld, John P. Leddy, Ralph Snyderman, and Rick A. Wetsel*
- 5472 Quantitation of Tryptase, Chymase, Fc $\epsilon$ RI $\alpha$ , and Fc $\epsilon$ RI $\gamma$  mRNAs in Human Mast Cells and Basophils by Competitive Reverse Transcription-Polymerase Chain Reaction  
*Han-Zhang Xia, Christopher L. Kepley, Kentaro Sakai, Jeyanthan Chelliah, Anne-Marie A. Irani, and Lawrence B. Schwartz*
- 5481 IL-8 Is Expressed by Human Peripheral Blood Eosinophils: Evidence for Increased Secretion in Asthma  
*Shida Yousefi, Stefanie Hemmann, Martina Weber, Christiane Hölzer, Konrad Hartung, Kurt Blaser, and Hans-Uwe Simon*

## CLINICAL IMMUNOLOGY

- 5492 A Randomized, Controlled Trial of IL-10 in Humans: Inhibition of Inflammatory Cytokine Production and Immune Responses  
*Amy E. Chernoff, Eric V. Granowitz, Leland Shapiro, Edouard Vannier, Gerhard Lonnemann, Jonathan B. Angel, Jeffrey S. Kennedy, Arthur R. Rabson, Sheldon M. Wolff, and Charles A. Dinarello*
- 5500 Cardiac Xenografts Between Primate Species Provide Evidence for the Importance of the  $\alpha$ -Galactosyl Determinant in Hyperacute Rejection  
*Bradley H. Collins, Adrian H. Cotterell, Kenneth R. McCurry, Cristobal G. Alvarado, John C. Magee, William Parker, and Jeffrey L. Platt*

- 5511 **Effects of Stress on Immune Cell Distribution: Dynamics and Hormonal Mechanisms**  
*Firdaus S. Dhabhar, Andrew H. Miller, Bruce S. McEwen, and Robert L. Spencer*
- 5528 **Endogenous Macrophage CSF Production Is Associated with Viral Replication in HIV-1-Infected Human Monocyte-Derived Macrophages**  
*Marion F. Gruber, Karis A. Weih, Elizabeth J. Boone, Phillip D. Smith, and Kathleen A. Clouse*
- 5536 **Myelin Oligodendrocyte Glycoprotein Induces a Demyelinating Encephalomyelitis Resembling Multiple Sclerosis**  
*Terrance G. Johns, Nicole Kerlero de Rosbo, Krishna K. Menon, Samia Abo, Michael F. Gonzales, and Claude C. A. Bernard*
- 5542 **Use of Anti-CD3 $\epsilon$  F(ab')<sub>2</sub> Fragments In Vivo to Modulate Graft-Versus-Host Disease Without Loss of Graft-Versus-Leukemia Reactivity After MHC-Matched Bone Marrow Transplantation**  
*Bryon D. Johnson, Cathleen McCabe, Carrie A. Hanke, and Robert L. Truitt*
- 5555 **Analysis of Apoptosis in Lymph Nodes of HIV-Infected Persons: Intensity of Apoptosis Correlates with the General State of Activation of the Lymphoid Tissue and Not with Stage of Disease or Viral Burden**  
*Carlos A. Muro-Cacho, Giuseppe Pantaleo, and Anthony S. Fauci*
- 5567 **Aspartate at Position 57 of Nonobese Diabetic I-A<sup>g7</sup>  $\beta$ -Chain Diminishes the Spontaneous Incidence of Insulin-Dependent Diabetes Mellitus**  
*Ruby Quartey-Papafio, Torben Lund, Phil Chandler, Jean Picard, Patricia Ozegbe, Susan Day, Paddy R. Hutchings, Lorraine O'Reilly, Dimitris Kioussis, Elisabeth Simpson, and Anne Cooke*
- 5576 **Analysis of Ig V<sub>H</sub> Region Genes Encoding IgE Antibodies in Splenic B Lymphocytes of a Patient with Asthma**  
*Rachel E. Snow, Caroline J. Chapman, Anthony J. Frew, Stephen T. Holgate, and Freda K. Stevenson*
- 5582 **Simian Immunodeficiency Virus (SIV)-Specific CTL in Cerebrospinal Fluid and Brains of SIV-Infected Rhesus Macaques**  
*Matthias von Herrath, Michael B. A. Oldstone, and Howard S. Fox*
- 5590 **Administration of Noncytolytic IL-10/Fc in Murine Models of Lipopolysaccharide-Induced Septic Shock and Allogeneic Islet Transplantation**  
*Xin Xiao Zheng, Alan W. Steele, Peter W. Nickerson, Wolfgang Steurer, Jürg Steiger, and Terry B. Strom*
- 5601 **Author Index**
- 5603 **Information for Authors**
- 5605 **Cutting Edge Information for Authors**
- 5606 **Submission Form**
- 5607 **Membership Application**
- 5608 **Submission Form: Cutting Edge**