

# Arthritis & Rheumatism

An Official Journal of the American College of Rheumatology  
www.arthritisrheum.org and www.interscience.wiley.com

VOLUME 62

JANUARY 2010

NO. 1

<b>In This Issue</b> .....	A14
<b>Special Articles</b>	
Editorial: Good and Bad Memories Following Rituximab Therapy <i>E. William St.Clair</i> .....	1
Editorial: Emerging From the Shadows: Follicular Helper T Cells in Autoimmunity <i>Leah D. DiPlacido and Joe Craft</i> .....	6
Review: Incidence and Prevention of Bladder Toxicity From Cyclophosphamide in the Treatment of Rheumatic Diseases: A Data-Driven Review <i>Paul A. Monach, Lindsay M. Arnold, and Peter A. Merkel</i> .....	9
<b>Rheumatoid Arthritis Clinical Studies</b>	
Direct Comparison of Treatment Responses, Remission Rates, and Drug Adherence in Patients With Rheumatoid Arthritis Treated With Adalimumab, Etanercept, or Infliximab: Results From Eight Years of Surveillance of Clinical Practice in the Nationwide Danish DANBIO Registry <i>Merete Lund Hetland, Ib Jarle Christensen, Ulrik Tarp, Lene Dreyer, Annette Hansen, Ib Tønder Hansen, Gina Kollerup, Louise Linde, Hanne M. Lindegaard, Uta Engling Poulsen, Annette Schlemmer, Dorte Vendelbo Jensen, Signe Jensen, Gisela Hostenkamp, and Mikkel Østergaard, on Behalf of All Departments of Rheumatology in Denmark</i> .....	22
Rapid and Sustained Improvement in Bone and Cartilage Turnover Markers With the Anti-Interleukin-6 Receptor Inhibitor Tocilizumab Plus Methotrexate in Rheumatoid Arthritis Patients With an Inadequate Response to Methotrexate: Results From a Substudy of the Multicenter Double-Blind, Placebo-Controlled Trial of Tocilizumab in Inadequate Responders to Methotrexate Alone <i>Patrick Garnero, Elizabeth Thompson, Thasia Woodworth, and Josef S. Smolen</i> .....	33
Antibodies to Several Citrullinated Antigens Are Enriched in the Joints of Rheumatoid Arthritis Patients <i>Omri Snir, Mona Widhe, Monika Hermansson, Caroline von Spee, Johan Lindberg, Sanne Hensen, Karin Lundberg, Åke Engström, Patrick J. W. Venables, René E. M. Toes, Rikard Holmdahl, Lars Klareskog, and Vivianne Malmström</i> .....	44
Novel Role of Plasmacytoid Dendritic Cells in Humans: Induction of Interleukin-10-Producing Treg Cells by Plasmacytoid Dendritic Cells in Patients With Rheumatoid Arthritis Responding to Therapy <i>Melina Kavousanaki, Antonis Makrigiannakis, Dimitrios Boumpas, and Panayotis Verginis</i> .....	53
Immunization Responses in Rheumatoid Arthritis Patients Treated With Rituximab: Results From a Controlled Clinical Trial <i>Clifton O. Bingham III, R. John Looney, Atul Deodhar, Neal Halsey, Maria Greenwald, Christine Coddling, Benjamin Trzaskoma, Flavius Martin, Sunil Agarwal, and Ariella Kelman</i> .....	64
Humoral Responses After Influenza Vaccination Are Severely Reduced in Patients With Rheumatoid Arthritis Treated With Rituximab <i>Sander van Assen, Albert Holvast, Cornelis A. Benne, Marcel D. Posthumus, Miek A. van Leeuwen, Alexandre E. Voskuyl, Marlies Blom, Anke P. Risselada, Aalzen de Haan, Johanna Westra, Cees G. M. Kallenberg, and Marc Bijl</i> .....	75
Inhibition of NF- $\kappa$ B Signaling by Fasudil as a Potential Therapeutic Strategy for Rheumatoid Arthritis <i>Hiroshi Okamoto, Taku Yoshio, Hirotaka Kaneko, and Hisashi Yamanaka</i> .....	82
<b>Rheumatoid Arthritis Basic Science Studies</b>	
Functional Autoantibodies Against Serpin E2 in Rheumatoid Arthritis <i>H. Maciejewska-Rodrigues, M. Al-Shamisi, H. Hemmatazad, C. Ospelt, M. C. Bouton, D. Jäger, A. P. Cope, P. Charles, D. Plant, J. H. W. Distler, R. E. Gay, B. A. Michel, A. Knuth, M. Neidhart, S. Gay, and A. Jüngel</i> .....	93
Involvement of MAPKs and NF- $\kappa$ B in Tumor Necrosis Factor $\alpha$ -Induced Vascular Cell Adhesion Molecule 1 Expression in Human Rheumatoid Arthritis Synovial Fibroblasts <i>Shue-Fen Luo, Rou-Yi Fang, Hsi-Lung Hsieh, Pei-Ling Chi, Chih-Chung Lin, Li-Der Hsiao, Chi-Chuan Wu, Jong-Shyan Wang, and Chuen-Mao Yang</i> .....	105

Identification of Citrullinated Vimentin Peptides as T Cell Epitopes in HLA–DR4–Positive Patients With Rheumatoid Arthritis <i>Anouk L. Feitsma, Ellen I. H. van der Voort, Kees L. M. C. Franken, Hanane el Bannoudi, Berendina G. Elferink, Jan W. Drijfhout, Tom W. J. Huizinga, René R. P. de Vries, René E. M. Toes, and A. Ioan-Facsinay</i> .....	117
Rheumatoid Arthritis–Specific Autoantibodies to Peptidyl Arginine Deiminase Type 4 Inhibit Citrullination of Fibrinogen <i>Isabelle Auger, Marielle Martin, Nathalie Balandraud, and Jean Roudier</i> .....	126
1,25-Dihydroxyvitamin D <sub>3</sub> Modulates Th17 Polarization and Interleukin-22 Expression by Memory T Cells From Patients With Early Rheumatoid Arthritis <i>E. M. Colin, P. S. Asmawidjaja, J. P. van Hamburg, A. M. C. Mus, M. van Driel, J. M. W. Hazes, J. P. T. M. van Leeuwen, and E. Lubbers</i> .....	132
Response of Th17 Cells to a Citrullinated Arthritogenic Aggrecan Peptide in Patients With Rheumatoid Arthritis <i>Alexei von Delwig, James Locke, John H. Robinson, and Wan-Fai Ng</i> .....	143
<b>Arthritis &amp; Rheumatism 2009 Abstract Supplement Available Online</b> .....	149
<b>Spondylarthritis</b>	
Evidence That Dkk-1 Is Dysfunctional in Ankylosing Spondylitis <i>Dimitrios Daoussis, Stamatis-Nick C. Lioussis, Elena E. Solomou, Anastasia Tsanaktsi, Konstadina Bounia, Maria Karampetsou, Georgios Yiannopoulos, and Andrew P. Andonopoulos</i> .....	150
<b>Experimental Arthritis</b>	
Inhibition of Synovial Hyperplasia, Rheumatoid T Cell Activation, and Experimental Arthritis in Mice by Sulforaphane, a Naturally Occurring Isothiocyanate <i>Jin-Sun Kong, Seung-Ah Yoo, Hyun-Sook Kim, Hyun Ah Kim, Kyungmoo Yea, Sung-Ho Ryu, Yeun-Jun Chung, Chul-Soo Cho, and Wan-Uk Kim</i> .....	159
Anti-CD3 Therapy Expands the Numbers of CD4+ and CD8+ Treg Cells and Induces Sustained Amelioration of Collagen-Induced Arthritis <i>Clare A. Notley, Fiona E. McCann, Julia J. Inglis, and Richard O. Williams</i> .....	171
<b>Bone Biology</b>	
Anti–Neuropilin-1 Peptide Inhibition of Synoviocyte Survival, Angiogenesis, and Experimental Arthritis <i>Jin-Sun Kong, Seung-Ah Yoo, Jung-Wook Kim, Seung-Pil Yang, Chi-Bom Chae, Valeria Tarallo, Sandro De Falco, Sung-Ho Ryu, Chul-Soo Cho, and Wan-Uk Kim</i> .....	179
<b>Cartilage Biology</b>	
Rho Kinase–Dependent Activation of SOX9 in Chondrocytes <i>Dominik R. Haudenschild, Jianfen Chen, Nina Pang, Martin K. Lotz, and Darryl D. D’Lima</i> .....	191
<b>Search for Next Editor, <i>Arthritis Care &amp; Research</i> (2011–2016 Term)</b> .....	
<b>Systemic Lupus Erythematosus</b>	
Effect of Long-Term Belimumab Treatment on B Cells in Systemic Lupus Erythematosus: Extension of a Phase II, Double-Blind, Placebo-Controlled, Dose-Ranging Study <i>Annett M. Jacobi, Weiqing Huang, Tao Wang, William Freimuth, Inaki Sanz, Richard Furie, Meggan Mackay, Cynthia Aranow, Betty Diamond, and Anne Davidson</i> .....	201
Nonrenal Disease Activity Following Mycophenolate Mofetil or Intravenous Cyclophosphamide as Induction Treatment for Lupus Nephritis: Findings in a Multicenter, Prospective, Randomized, Open-Label, Parallel-Group Clinical Trial <i>Ellen M. Ginzler, David Wofsy, David Isenberg, Caroline Gordon, Laura Lisk, and Mary-Anne Dooley, for the ALMS Group</i> .....	211
Efficacy and Safety of Rituximab in Moderately-to-Severely Active Systemic Lupus Erythematosus: The Randomized, Double-Blind, Phase II/III Systemic Lupus Erythematosus Evaluation of Rituximab Trial <i>Joan T. Merrill, C. Michael Neuwelt, Daniel J. Wallace, Joseph C. Shanahan, Kevin M. Latinis, James C. Oates, Tammy O. Utset, Caroline Gordon, David A. Isenberg, Hsin-Ju Hsieh, David Zhang, and Paul G. Brunetta</i> .....	222
Expansion of Circulating T Cells Resembling Follicular Helper T Cells Is a Fixed Phenotype That Identifies a Subset of Severe Systemic Lupus Erythematosus <i>Nicholas Simpson, Paul A. Gatenby, Anastasia Wilson, Shreya Malik, David A. Fulcher, Stuart G. Tangye, Harinder Manku, Timothy J. Vyse, Giovanna Roncador, Gavin A. Huttley, Christopher C. Goodnow, Carola G. Vinuesa, and Matthew C. Cook</i> .....	234
Lack of Effect of a Single Injection of Human C-Reactive Protein on Murine Lupus or Nephrotoxic Nephritis <i>Francesco Carlucci, H. Terence Cook, Abhilok Garg, Mark B. Pepys, and Marina Botto</i> .....	245

## Childhood Arthritis

- Thalidomide Dramatically Improves the Symptoms of Early-Onset Sarcoidosis/Blau Syndrome: Its Possible Action and Mechanism  
*Kozo Yasui, Masato Yashiro, Mitsuru Tsuge, Akira Manki, Kei Takemoto, Michiko Yamamoto, and Tsuneo Morishima* ..... 250
- Long-Term Efficacy of the Interleukin-1 Receptor Antagonist Anakinra in Ten Patients With Neonatal-Onset Multisystem Inflammatory Disease/Chronic Infantile Neurologic, Cutaneous, Articular Syndrome  
*Bénédicte Neven, Isabelle Marvillet, Celine Terrada, Alice Ferster, Nathalie Boddaert, Vincent Couloignier, Graziella Pinto, Anne Pagnier, Christine Bodemer, Bahram Bodaghi, Marc Tardieu, Anne Marie Prieur, and Pierre Quartier* ..... 258

## Myositis

- Muscle Resident Macrophages Control the Immune Cell Reaction in a Mouse Model of Notexin-Induced Myoinjury  
*Madly Brigitte, Clementine Schilte, Anne Plonquet, Yasmine Baba-Amer, Adeline Henri, Caroline Charlier, Shahragim Tajbakhsh, Matthew Albert, Romain K. Gherardi, and Fabrice Chrétien* ..... 268

## Systemic Sclerosis

- The Transcription Factor Fra-2 Regulates the Production of Extracellular Matrix in Systemic Sclerosis  
*Nicole Reich, Britta Maurer, Alfiya Akhmetshina, Paulius Venalis, Clara Dees, Pawel Zerr, Katrin Palumbo, Jochen Zwerina, Tatiana Nevskaya, Steffen Gay, Oliver Distler, Georg Schett, and Jörg H. W. Distler* ..... 280

## Clinical Images

- Gastric Antral Vascular Ectasia in Systemic Sclerosis  
*Rene Thonhofer, Cornelia Siegel, Markus Trummer, and Alexander Gugl* ..... 290

## Fibromyalgia

- Evaluation of the Efficacy and Safety of Terguride in Patients With Fibromyalgia Syndrome: Results of a Twelve-Week, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-Group Study  
*Oliver Distler, Wolfgang Eich, Eva Dokoupilova, Zdenek Dvorak, Martin Fleck, Markus Gaubitz, Manfred Hechler, Jan-Peter Jansen, Andreas Krause, Martin Bendszus, Lothar Pache, Rudolf Reiter, and Ulf Müller-Ladner* ..... 291

## Letters

- Human Nucleus Pulposus Cell Cultures and Disc Degeneration Grading Systems: Comment on the Article by Le Maitre et al  
*Hai-Qiang Wang, Xiao-Dong Yu, Zhi-Heng Liu, Xin-Kui Li, and Zhuo-Jing Luo* ..... 301
- Statin Treatment of Rheumatoid Arthritis: Comment on the Editorial by Ridker and Solomon  
*Mike J. L. Peters, Michael T. Nurmohamed, George D. Kitas, and Naveed Sattar* ..... 302
- Somatic Mutations and Anti-Mutated Citrullinated Vimentin Antibodies in Rheumatoid Arthritis: Comment on the Editorial by Levesque et al  
*Gary S. Firestein* ..... 303
- The Tidemark of Cartilage as a Potential Target of the Rheumatoid Response: Comment on the Editorial by Suber and Rosen  
*Peter A. Simkin* ..... 304
- Reply to Letter by Priori et al Commenting on Whether Behçet's Syndrome Patients With Acne and Arthritis Comprise a True Subset  
*Gülen Hatemi, Izzet Fresko, Sebahattin Yurdakul, Huri Ozdogan, Hasan Yazici, Ender Altıok, and Güven Yenmis* ..... 305

- ACR Announcements** ..... A24

**Cover Image:** The figure on the cover (from Kong et al, page 186) illustrates the effect of anti-neutropilin 1 (anti-NP-1) peptide on neovascularization in vivo. Matrigel containing vascular endothelial growth factor (VEGF) and heparin, with or without anti-NP-1 peptide, was injected subcutaneously into the abdomens of C57BL/6 mice. Matrigel plugs excised from 3 mice with no treatment (left images), 3 mice with VEGF treatment (middle images), and 3 mice with VEGF plus anti-NP-1 peptide treatment (right images) are shown.