

1 **This Month's Highlights**

Future Articles

ASN News

3 **Nephrology beyond JASN**

Editorials

7 **Novel Approaches in the Investigation of Acute Kidney Injury**

David P. Basile

→ See related article by Broekema et al. on pages 165–175 and Perianayagam et al. on pages 255–263.

10 **Mechanism of Injury in Uromodulin-Associated Kidney Disease**

Satish Kumar

→ See related article by Jennings et al. on pages 264–273.

13 **The Heat Is On: An Expanding Role for Hypoxia-Inducible Factors in Kidney Transplantation**

Masaomi Nangaku

→ See related article by Rosenberger et al. on pages 343–351.

Review

16 **Oxidants in Chronic Kidney Disease**

Sudhir V. Shah, Radhakrishna Baliga, Mohan Rajapurkar, and Vivian A. Fonseca

Fast Track

29 **Induction of TRPC6 Channel in Acquired Forms of Proteinuric Kidney Disease**

Clemens C. Möller, Changli Wei, Mehmet M. Altintas, Jing Li, Anna Greka, Takamoto Ohse, Jeffrey W. Pippin, Maria P. Rastaldi, Stefan Wawersik, Susan Schiavi, Anna Henger, Matthias Kretzler, Stuart J. Shankland, and Jochen Reiser

Basic Science Articles

Cell and Transport Physiology

37 ★ **Multidrug Resistance–Associated Protein 4 Is Involved in the Urinary Excretion of Hydrochlorothiazide and Furosemide**

Maki Hasegawa, Hiroyuki Kusuhara, Masashi Adachi, John D. Schuetz, Kenji Takeuchi, and Yuichi Sugiyama

46 **Ouabain Binds with High Affinity to the Na,K-ATPase in Human Polycystic Kidney Cells and Induces Extracellular Signal–Regulated Kinase Activation and Cell Proliferation**

Anh-Nguyet T. Nguyen, Darren P. Wallace, and Gustavo Blanco

Cell Biology

- 58 **Inhibition of Histone Deacetylase Activity Suppresses Epithelial-to-Mesenchymal Transition Induced by TGF- β 1 in Human Renal Epithelial Cells**
Masahiro Yoshikawa, Keiichi Hishikawa, Takeshi Marumo, and Toshiro Fujita
- 66 **TGF- β 1 Regulates the PINCH-1-Integrin-Linked Kinase- α -Parvin Complex in Glomerular Cells**
Kyu Yong Jung, Ka Chen, Matthias Kretzler, and Chuanyue Wu
- 74 **Expression and Targeting of CX₃CL1 (Fractalkine) in Renal Tubular Epithelial Cells**
Anne M. Durkan, R. Todd Alexander, Guang-Ying Liu, Min Rui, Giuseppe Femia, and Lisa A. Robinson
- 84 **★ Myocardial Function, Energy Provision, and Carnitine Deficiency in Experimental Uremia**
Veena Reddy, Sunil Bhandari, and Anne-Marie L. Seymour
- 93 **Retinoic Acid Inhibits HIV-1-Induced Podocyte Proliferation through the cAMP Pathway**
John Cijiang He, Ting-Chi Lu, Margaret Fleet, Masaaki Sunamoto, Mohammad Husain, Wei Fang, Susana Neves, Yibang Chen, Stuart Shankland, Ravi Iyengar, and Paul E. Klotman

Genetics and Development

- 103 **A Sensitized Screen of N-ethyl-N-nitrosourea-Mutagenized Mice Identifies Dominant Mutants Predisposed to Diabetic Nephropathy**
Elena E. Tchekneva, Eugene M. Rinchik, Dina Polosukhina, Linda S. Davis, Veronika Kadkina, Yassir Mohamed, Steve R. Dunn, Kumar Sharma, Zhonghua Qi, Agnes B. Fogo, and Matthew D. Breyer
- 113 **★ Development of Overt Proteinuria in the Munich Wistar Frömter Rat Is Suppressed by Replacement of Chromosome 6 in a Consomic Rat Strain**
Angela Schulz, Judith Weiss, Maria Schlesener, Jonna Hänsch, Markus Wehland, Norbert Wendt, Peter Kossmehl, Anika Sietmann, Daniela Grimm, Monika Stoll, Jens Randel Nyengaard, and Reinhold Kreutz

Basic Mineral Metabolism and Bone Disease

- 122 **Reversal of the Adynamic Bone Disorder and Decreased Vascular Calcification in Chronic Kidney Disease by Sevelamer Carbonate Therapy**
Suresh Mathew, Richard J. Lund, Frank Strebeck, Kimberly S. Tustison, Theresa Geurs, and Keith A. Hruska

Hemodynamics and Vascular Regulation

- 131 **EGF Receptor Activity Modulates Apoptosis Induced by Inhibition of the Proteasome of Vascular Smooth Muscle Cells**
Wei-Zhong Ying, Huang-Ge Zhang, and Paul W. Sanders

Pathophysiology of Renal Disease and Progression

- 143 **Endothelin A Receptor Blockade Reduces Diabetic Renal Injury *via* an Anti-Inflammatory Mechanism**
Jennifer M. Sasser, Jennifer C. Sullivan, Janet L. Hobbs, Tatsuo Yamamoto, David M. Pollock, Pamela K. Carmines, and Jennifer S. Pollock
- 155 **Acute Renal Failure after Bilateral Nephrectomy Is Associated with Cytokine-Mediated Pulmonary Injury**
Thomas S. Hoke, Ivor S. Douglas, Christina L. Klein, Zhibin He, Wenfeng Fang, Joshua M. Thurman, Yunxia Tao, Belda Dursun, Norbert F. Voelkel, Charles L. Edelstein, and Sarah Faubel
- 165 **★ Bone Marrow-Derived Myofibroblasts Contribute to the Renal Interstitial Myofibroblast Population and Produce Procollagen I after Ischemia/Reperfusion in Rats**
Martine Broekema, Martin C. Harmsen, Marja J.A. van Luyn, Jasper A. Koerts, Arjen H. Petersen, Theo G. van Kooten, Harry van Goor, Gerjan Navis, and Eliane R. Popa
→ See related editorial by Basile on pages 7–9.
- 176 **Peroxisome Proliferator-Activated Receptor α Protects against Glomerulonephritis Induced by Long-Term Exposure to the Plasticizer Di-(2-Ethylhexyl)Phthalate**
Yuji Kamijo, Kazuhiko Hora, Tamie Nakajima, Keiichi Kono, Kyoko Takahashi, Yuki Ito, Makoto Higuchi, Kendo Kiyosawa, Hidekazu Shigematsu, Frank J. Gonzalez, and Toshifumi Aoyama
- 189 **RhoA Activation in Mesangial Cells by Mechanical Strain Depends on Caveolae and Caveolin-1 Interaction**
Fangfang Peng, Dongcheng Wu, Alistair J. Ingram, Baifang Zhang, Bo Gao, and Joan C. Krepinsky

- 199 **Compartmentalization of cAMP-Dependent Signaling by Phosphodiesterase-4D Is Involved in the Regulation of Vasopressin-Mediated Water Reabsorption in Renal Principal Cells**
Eduard Stefan, Burkhard Wiesner, George S. Baillie, Rustam Mollajew, Volker Henn, Dorothea Lorenz, Jens Furkert, Katja Santamaria, Pavel Nedvetsky, Christian Hundsrucker, Michael Beyermann, Eberhard Krause, Peter Pohl, Irene Gall, Andrew N. MacIntyre, Sebastian Bachmann, Miles D. Houslay, Walter Rosenthal, and Enno Klussmann

Basic Transplantation

- 213 **Mitochondrial Targeting with Antioxidant Peptide SS-31 Prevents Mitochondrial Depolarization, Reduces Islet Cell Apoptosis, Increases Islet Cell Yield, and Improves Posttransplantation Function**
Dolca A. Thomas, Craig Stauffer, Kesheng Zhao, Hua Yang, Vijay K. Sharma, Hazel H. Szeto, and Manikkam Suthanthiran

Disease of the Month

- 223 **Pathogenesis and Prevention of Bone Loss in Patients Who Have Kidney Disease and Receive Long-Term Immunosuppression**
John Cunningham

Clinical Science Articles

Clinical Nephrology

- 235 ★ **Central Obesity, Incident Microalbuminuria, and Change in Creatinine Clearance in the Epidemiology of Diabetes Interventions and Complications Study**
Ian H. de Boer, Shalamar D. Sibley, Bryan Kestenbaum, Joshua N. Sampson, Bessie Young, Patricia A. Cleary, Michael W. Steffes, Noel S. Weiss, and John D. Brunzell; for the Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications Study Research Group
- 244 **Severe Lupus Nephritis: Racial Differences in Presentation and Outcome**
Stephen M. Korbet, Melvin M. Schwartz, Joni Evans, and Edmund J. Lewis; for the Collaborative Study Group

Human Genetics

- 255 **NADPH Oxidase p22phox and Catalase Gene Variants Are Associated with Biomarkers of Oxidative Stress and Adverse Outcomes in Acute Renal Failure**
Mary C. Perianayagam, Orfeas Liangos, Alexey Y. Kolyada, Ron Wald, Robert W. MacKinnon, Lijun Li, Madhumati Rao, Vaidyanathapuram S. Balakrishnan, Joseph V. Bonventre, Brian J. Pereira, and Bertrand L. Jaber
→ See related editorial by Basile on pages 7–9.
- 264 **Membrane Targeting and Secretion of Mutant Uromodulin in Familial Juvenile Hyperuricemic Nephropathy**
Paul Jennings, Sonia Aydin, Peter Kotanko, Judith Lechner, Karl Lhotta, Sian Williams, Rajesh V. Thakker, and Walter Pfaller
→ See related editorial by Kumar on pages 10–12.

Epidemiology and Outcomes

- 274 ★ **Effect of Organic Solvent Exposure on Chronic Kidney Disease Progression: The GN-PROGRESS Cohort Study**
Sophie Jacob, Michel Héry, Jean-Claude Protois, Jérôme Rossert, and Bénédicte Stengel
- 282 **Association of Kidney Function with Incident Hip Fracture in Older Adults**
Linda F. Fried, Mary Louise Biggs, Michael G. Shlipak, Stephen Seliger, Bryan Kestenbaum, Catherine Stehman-Breen, Mark Sarnak, David Siscovick, Tamara Harris, Jane Cauley, Anne B. Newman, and John Robbins
- 287 **Plasma Uric Acid Level and Risk for Incident Hypertension Among Men**
John P. Forman, Hyon Choi, and Gary C. Curhan
- 293 **Association between Serum Lipids and Survival in Hemodialysis Patients and Impact of Race**
Ryan D. Kilpatrick, Charles J. McAllister, Csaba P. Kovesdy, Stephen F. Derose, Joel D. Kopple, and Kamyar Kalantar-Zadeh
- 304 **Inverse Association between Lipid Levels and Mortality in Men with Chronic Kidney Disease Who Are Not Yet on Dialysis: Effects of Case Mix and the Malnutrition-Inflammation-Cachexia Syndrome**
Csaba P. Kovesdy, John E. Anderson, and Kamyar Kalantar-Zadeh

Clinical Dialysis

- 312 **Automated External Defibrillators and Survival from Cardiac Arrest in the Outpatient Hemodialysis Clinic**
Ruediger W. Lehrich, Patrick H. Pun, Nadine D. Tanenbaum, Stephen R. Smith, and John P. Middleton
- 321 ★ **N-Terminal Pro-Brain Natriuretic Peptide: An Independent Risk Predictor of Cardiovascular Congestion, Mortality, and Adverse Cardiovascular Outcomes in Chronic Peritoneal Dialysis Patients**
Angela Yee-Moon Wang, Christopher Wai-Kei Lam, Cheuk-Man Yu, Mei Wang, Iris Hiu-Shuen Chan, Yan Zhang, Siu-Fai Lui, and John E. Sanderson

Clinical Immunology and Pathology

- 331 **Oxidized Low-Density Lipoproteins Activate CD4⁺ T Cell Apoptosis in Patients with End-Stage Renal Disease through Fas Engagement**
Pascal Meier, François Spertini, Edouard Blanc, and Michel Burnier

Clinical Transplantation

- 343 ★ **Immunohistochemical Detection of Hypoxia-Inducible Factor-1 α in Human Renal Allograft Biopsies**
Christian Rosenberger, Johann Pratschke, Birgit Rudolph, Samuel N. Heyman, Ralf Schindler, Nina Babel, Kai-Uwe Eckardt, Ulrich Frei, Seymour Rosen, and Petra Reinke
→ See related editorial by Nangaku on pages 13–15.

Announcements

- 352 **Announcements**