

The Journal of Neuroscience

January 14, 2015 • Volume 35 Number 2 • www.jneurosci.org



Cover legend: This composite time-lapse image shows superreducing-pHluorin–transferrin-receptor fluorescence signal in a cultured hippocampal pyramidal cell. The pH-sensitive fluorophore conjugated to the transferrin receptor serves as an optical reporter of recycling endosome exocytosis, a process critical for synaptic potentiation. Posttranslational modification of the synaptic scaffold protein AKAP79/150 by the palmitoyl-acyltransferase DHHC2 is crucial for the regulation of recycling endosome exocytosis. For more information, see the article by Woolfrey et al. (pages 442–456).

i This Week in The Journal

Journal Club

- 439 **Guidance of Movements by Prior Experience: A Bayesian Account of Reach Performance**
Darren Rhodes and Philip J.W. Woodgate

Brief Communications

- 467 **Necessary, Yet Dissociable Contributions of the Insular and Ventromedial Prefrontal Cortices to Norm Adaptation: Computational and Lesion Evidence in Humans**
Xiaosi Gu, Xingchao Wang, Andreas Hula, Shiwei Wang, Shuai Xu, Terry M. Lohrenz, Robert T. Knight, Zhixian Gao, Peter Dayan, and P. Read Montague
- 544 **Integration of Purkinje Cell Inhibition by Cerebellar Nucleo-Olivary Neurons**
Marion Najac and Indira M. Raman
- 643 **Motor Cortex Layer V Pyramidal Neurons Exhibit Dendritic Regression, Spine Loss, and Increased Synaptic Excitation in the Presymptomatic hSOD1^{G93A} Mouse Model of Amyotrophic Lateral Sclerosis**
Matthew J. Fogarty, Peter G. Noakes, and Mark C. Bellingham

Articles

CELLULAR/MOLECULAR

- 442 **The Palmitoyl Acyltransferase DHHC2 Regulates Recycling Endosome Exocytosis and Synaptic Potentiation through Palmitoylation of AKAP79/150**
Kevin M. Woolfrey, Jennifer L. Sanderson, and Mark L. Dell'Acqua
- 495 **Accounting for the Delay in the Transition from Acute to Chronic Pain: Axonal and Nuclear Mechanisms**
Luiz F. Ferrari, Oliver Bogen, David B. Reichling, and Jon D. Levine
- 571 **Agonist-Dependent Modulation of Cell Surface Expression of the Cold Receptor TRPM8**
Carlos A. Toro, Stephanie Eger, Luis Veliz, Pamela Sotelo-Hitschfeld, Deny Cabezas, Maite A. Castro, Katharina Zimmermann, and Sebastian Brauchi
- 621 **Different Patterns of Electrical Activity Lead to Long-term Potentiation by Activating Different Intracellular Pathways**
Guoqi Zhu, Yan Liu, Yubin Wang, Xiaoning Bi, and Michel Baudry
- 678 **Inflammasome-Induced IL-1 β Secretion in Microglia Is Characterized by Delayed Kinetics and Is Only Partially Dependent on Inflammatory Caspases**
Saskia M. Burm, Ella A. Zuiderwijk-Sick, Anke E.J. 't Jong, Céline van der Putten, Jennifer Veth, Ivanela Kondova, and Jeffrey J. Bajramovic

- 831 **Actions of Bupivacaine, a Widely Used Local Anesthetic, on NMDA Receptor Responses**
Meaghan A. Paganelli and Gabriela K. Popescu

DEVELOPMENT/PLASTICITY/REPAIR

- 550 **Appraisal of Brain Connectivity in Radiologically Isolated Syndrome by Modeling Imaging Measures**
Antonio Giorgio, Maria Laura Stromillo, Alessandro De Leucio, Francesca Rossi, Imke Brandes, Bahia Hakiki, Emilio Portaccio, Maria Pia Amato, and Nicola De Stefano
- 559 **Vertebrate Epidermal Cells Are Broad-Specificity Phagocytes That Clear Sensory Axon Debris**
Jeffrey P. Rasmussen, Georgeann S. Sack, Seanna M. Martin, and Alvaro Sagasti
- 599 **Topologically Dissociable Patterns of Development of the Human Cerebral Cortex**
Simon N. Vandekar, Russell T. Shinohara, Armin Raznahan, David R. Roalf, Michelle Ross, Nicholas DeLeo, Kosha Ruparel, Ragini Verma, Daniel H. Wolf, Ruben C. Gur, Raquel E. Gur, and Theodore D. Satterthwaite

SYSTEMS/CIRCUITS

- 474 **Leptin Receptor Signaling in the Hypothalamus Regulates Hepatic Autonomic Nerve Activity via Phosphatidylinositol 3-Kinase and AMP-Activated Protein Kinase**
Mamoru Tanida, Naoki Yamamoto, Donald A. Morgan, Yasutaka Kurata, Toshishige Shibamoto, and Kamal Rahmouni
- 527 **Hypoxia Silences Retrotrapezoid Nucleus Respiratory Chemoreceptors via Alkalosis**
Tyler M. Basting, Peter G.R. Burke, Roy Kanbar, Kenneth E. Viar, Daniel S. Stornetta, Ruth L. Stornetta, and Patrice G. Guyenet
- 648 **Primary Afferent and Spinal Cord Expression of Gastrin-Releasing Peptide: Message, Protein, and Antibody Concerns**
Carlos Solorzano, David Villafuerte, Karuna Meda, Ferda Cevikbas, Joao Bráz, Reza Sharif-Naeini, Dina Juarez-Salinas, Ida J. Llewellyn-Smith, Zhonghui Guan, and Allan I. Basbaum
- 666 **5 α -Reduced Neurosteroids Sex-Dependently Reverse Central Prenatal Programming of Neuroendocrine Stress Responses in Rats**
Paula J. Brunton, Marcio V. Donadio, Song T. Yao, Mike Greenwood, Jonathan R. Seckl, David Murphy, and John A. Russell
- 761 **Cholinergic Control of Gamma Power in the Midbrain Spatial Attention Network**
Astra S. Bryant, C. Alex Goddard, John R. Huguenard, and Eric I. Knudsen
- 776 **PAR1-Activated Astrocytes in the Nucleus of the Solitary Tract Stimulate Adjacent Neurons via NMDA Receptors**
Katie M. Vance, Richard C. Rogers, and Gerlinda E. Hermann
- 843 **Structure-Function Relationships between Aldolase C/Zebirin II Expression and Complex Spike Synchrony in the Cerebellum**
Shinichiro Tsutsumi, Maya Yamazaki, Taisuke Miyazaki, Masahiko Watanabe, Kenji Sakimura, Masanobu Kano, and Kazuo Kitamura
- 853 **Impact of Basal Forebrain Cholinergic Inputs on Basolateral Amygdala Neurons**
Cagri T. Unal, Denis Pare, and Laszlo Zaborszky

BEHAVIORAL/COGNITIVE

- 485 **fMRI and EEG Predictors of Dynamic Decision Parameters during Human Reinforcement Learning**
Michael J. Frank, Chris Gagne, Erika Nyhus, Sean Masters, Thomas V. Wiecki, James F. Cavanagh, and David Badre

- 508 **Hemisphere-Dependent Attentional Modulation of Human Parietal Visual Field Representations**
Summer L. Sheremata and Michael A. Silver
- 634 **Distributed Neural Representations of Phonological Features during Speech Perception**
Jessica S. Arsenault and Bradley R. Buchsbaum
- 658 **Task-Induced Modulation of Intrinsic Functional Connectivity Networks in the Behaving Rat**
Jennifer Li, Sarah Martin, Mark D. Tricklebank, Adam J. Schwarz, and Gary Gilmour
- 721 **Dynamics of EEG Rhythms Support Distinct Visual Selection Mechanisms in Parietal Cortex: A Simultaneous Transcranial Magnetic Stimulation and EEG Study**
Paolo Capotosto, Sara Spadone, Annalisa Tosoni, Carlo Sestieri, Gian Luca Romani, Stefania Della Penna, and Maurizio Corbetta
- 731 **The Causal Role of the Occipital Face Area (OFA) and Lateral Occipital (LO) Cortex in Symmetry Perception**
Silvia Bona, Zaira Cattaneo, and Juha Silvanto
- 739 **Cholinergic Basal Forebrain Structure Influences the Reconfiguration of White Matter Connections to Support Residual Memory in Mild Cognitive Impairment**
Nicola J. Ray, Claudia Metzler-Baddeley, Mizanur R. Khondoker, Michel J. Grothe, Stefan Teipel, Paul Wright, Helmut Heinsen, Derek K. Jones, John P. Aggleton, and Michael J. O'Sullivan
- 786 **The Prefrontal Cortex Achieves Inhibitory Control by Facilitating Subcortical Motor Pathway Connectivity**
Charlotte L. Rae, Laura E. Hughes, Michael C. Anderson, and James B. Rowe
- 819 **Long-Delayed Expression of the Immediate Early Gene Arc/Arg3.1 Refines Neuronal Circuits to Perpetuate Fear Memory**
Daisuke Nakayama, Hirokazu Iwata, Chie Teshirogi, Yuji Ikegaya, Norio Matsuki, and Hiroshi Nomura

NEUROBIOLOGY OF DISEASE

- 457 **Neuropathic Pain Is Constitutively Suppressed in Early Life by Anti-Inflammatory Neuroimmune Regulation**
Rebecca McKelvey, Temugin Berta, Elizabeth Old, Ru-Rong Ji, and Maria Fitzgerald
- 518 **Biomarkers of Traumatic Injury Are Transported from Brain to Blood via the Glymphatic System**
Benjamin A. Plog, Matthew L. Dashnaw, Emi Hitomi, Weiguo Peng, Yonghong Liao, Nanhong Lou, Rashid Deane, and Maiken Nedergaard
- 583 **DAMP Signaling is a Key Pathway Inducing Immune Modulation after Brain Injury**
Arthur Liesz, Alexander Dalpke, Eva Mracsko, Daniel J. Antoine, Stefan Roth, Wei Zhou, Huan Yang, Shin-Young Na, Mustafa Akhisaroglu, Thomas Fleming, Tatjana Eigenbrod, Peter P. Nawroth, Kevin J. Tracey, and Roland Veltkamp
- 610 **Rcan1 Deficiency Impairs Neuronal Migration and Causes Periventricular Heterotopia**
Yang Li, Jie Wang, Yang Zhou, Dan Li, and Zhi-Qi Xiong
- 688 **Early and Persistent Abnormal Decoding by Glial Cells at the Neuromuscular Junction in an ALS Model**
Danielle Arbour, Elsa Tremblay, Éric Martineau, Jean-Pierre Julien, and Richard Robitaille

- 707 **Homeostatic Dysregulation in Membrane Properties of Masticatory Motoneurons Compared with Oculomotor Neurons in a Mouse Model for Amyotrophic Lateral Sclerosis**
Sharmila Venugopal, Chie-Fang Hsiao, Takuma Sonoda, Martina Wiedau-Pazos, and Scott H. Chandler
- 748 **CCR2 Antagonism Alters Brain Macrophage Polarization and Ameliorates Cognitive Dysfunction Induced by Traumatic Brain Injury**
Josh M. Morganti, Timothy D. Jopson, Sharon Liu, Lara-Kirstie Riparip, Cristian K. Guandique, Nalin Gupta, Adam R. Ferguson, and Susanna Rosi
- 795 **Distinguishing the Central Drive to Tremor in Parkinson's Disease and Essential Tremor**
John-Stuart Brittain, Hayriye Cagnan, Arpan R. Mehta, Tabish A. Saifee, Mark J. Edwards, and Peter Brown
- 807 **SIRT1 Deficiency in Microglia Contributes to Cognitive Decline in Aging and Neurodegeneration via Epigenetic Regulation of IL-1 β**
Seo-Hyun Cho, Jason A. Chen, Faten Sayed, Michael E. Ward, Fuying Gao, Thi A. Nguyen, Grietje Krabbe, Peter Dongmin Sohn, Iris Lo, Sakura Minami, Nino Devidze, Yungui Zhou, Giovanni Coppola, and Li Gan
- 864 **Correction:** The article "An RNA-Sequencing Transcriptome and Splicing Database of Glia, Neurons, and Vascular Cells of the Cerebral Cortex" by Ye Zhang, Kenian Chen, Steven A. Sloan, Mariko L. Bennett, Anja R. Scholze, Sean O'Keefe, Hemali P. Phatnani, Paolo Guarnieri, Christine Caneda, Nadine Ruderisch, Shuyun Deng, Shane A. Liddelow, Chaolin Zhang, Richard Daneman, Tom Maniatis, Ben A. Barres, and Jian Qian Wu appeared on pages 11929–11947 of the September 3, 2014 issue. A correction for that article appears on page 864.

Persons interested in becoming members of the Society for Neuroscience should contact the Membership Department, Society for Neuroscience, 1121 14th St., NW, Suite 1010, Washington, DC 20005, phone 202-962-4000.

Instructions for Authors are available at <http://www.jneurosci.org/misc/itoa.shtml>. Authors should refer to these Instructions online for recent changes that are made periodically.

Brief Communications Instructions for Authors are available via Internet (http://www.jneurosci.org/misc/ifa_bc.shtml).

Submissions should be submitted online using the following url: <http://jneurosci.msubmit.net>. Please contact the Central Office, via phone, fax, or e-mail with any questions. Our contact information is as follows: phone, 202-962-4000; fax, 202-962-4945; e-mail, jn@sfn.org.