

The Journal of Neuroscience

March 21, 2012 • Volume 32 Number 12 • www.jneurosci.org



Cover legend: Brain regions ("nodes," colored circles) that exhibited significant differences in nodal efficiency among remitted geriatric depression (RGD) patients, amnesic mild cognitive impairment (aMCI) patients, and controls. Brown lines represent the backbone of white-matter structural networks in healthy subjects determined using diffusion tensor imaging and deterministic tractography. The nodal efficiency for a given node measures the average shortest path length between the node and all of the other nodes in the network. The nodes in blue (mainly in the frontal cortex) exhibited reduced efficiency in aMCI and RGD patients relative to controls. The node in green (in the prefrontal cortex) showed reduced efficiency in RGD patients relative to aMCI patients. The node in yellow (in the inferior frontal gyrus) showed reduced efficiency in aMCI patients relative to the RGD patients. For more information, see the article by Bai et al. (pages 4307–4318).

i This Week in The Journal

Journal Club

- 3955 **Cell Adhesion Complexes Localize Presynaptic Vesicles by Regulating Local Actin Polymerization**
Elliott B. Merriam and Xindao Hu

Brief Communications

- 4224 **Interneurons Provide Circuit-Specific Depolarization and Hyperpolarization**
Jonas-Frederic Sauer, Michael Strüber, and Marlene Bartos
- 4240 **Deficiency of ATP13A2 Leads to Lysosomal Dysfunction, α -Synuclein Accumulation, and Neurotoxicity**
Marija Usenovic, Emilie Tresse, Joseph R. Mazzulli, J. Paul Taylor, and Dimitri Krainc

Articles

CELLULAR/MOLECULAR

- 3969 **Synapsin Selectively Controls the Mobility of Resting Pool Vesicles at Hippocampal Terminals**
Ayelet Orenbuch, Lee Shalev, Vincenzo Marra, Isaac Sinai, Yotam Lavy, Joy Kahn, Jemima J. Burden, Kevin Staras, and Daniel Gitler
- 3992 **Opposing Roles of Synaptic and Extrasynaptic NMDA Receptor Signaling in Cocultured Striatal and Cortical Neurons**
Alexandra M. Kaufman, Austen J. Milnerwood, Marja D. Sepers, Ainsley Coquinco, Kevin She, Liang Wang, Hwan Lee, Ann Marie Craig, Max Cynader, and Lynn A. Raymond
- 4042 **Regulation of GABA and Glutamate Release from Proopiomelanocortin Neuron Terminals in Intact Hypothalamic Networks**
Matthew S. Dicken, Ryan E. Tooker, and Shane T. Hentges
- 4080 **N-Glycosylation of Acid-Sensing Ion Channel 1a Regulates Its Trafficking and Acidosis-Induced Spine Remodeling**
Lan Jing, Xiang-Ping Chu, Yu-Qing Jiang, Daniel M. Collier, Bin Wang, Qian Jiang, Peter M. Snyder, and Xiang-Ming Zha
- 4102 **KIF21A-Mediated Axonal Transport and Selective Endocytosis Underlie the Polarized Targeting of NCKX2**
Kyu-Hee Lee, Jae Sung Lee, Doyun Lee, Dae-Hyun Seog, Jonathan Lytton, Won-Kyung Ho, and Suk-Ho Lee

- 4133 **Toxic Role of K⁺ Channel Oxidation in Mammalian Brain**
Diego Cotella, Berenice Hernandez-Enriquez, Xilong Wu, Ruiqiong Li, Zui Pan, Joseph Leveille, Christopher D. Link, Salvatore Oddo, and Federico Sesti
- 4196 ***Caenorhabditis elegans* Flamingo Cadherin *fmi-1* Regulates GABAergic Neuronal Development**
Elvis Huarcaya Najarro, Lianna Wong, Mei Zhen, Edgar Pinedo Carpio, Alexandr Goncharov, Gian Garriga, Erik A. Lundquist, Yishi Jin, and Brian D. Ackley
- 4284 **P2X2 and P2X5 Subunits Define a New Heteromeric Receptor with P2X7-Like Properties**
Vincent Compan, Lauriane Ulmann, Olga Stelmashenko, Jean Chemin, Séverine Chaumont, and Francois Rassendren

DEVELOPMENT/PLASTICITY/REPAIR

- 3958 **Influenza Infection Induces Neuroinflammation, Alters Hippocampal Neuron Morphology, and Impairs Cognition in Adult Mice**
Heidi A. Jurgens, Kaushik Amancherla, and Rodney W. Johnson
- 3981 **Broadening of Cortical Inhibition Mediates Developmental Sharpening of Orientation Selectivity**
Ya-tang Li, Wen-pei Ma, Chen-jie Pan, Li I. Zhang, and Huizhong W. Tao
- 4065 ***TrkA* Gene Ablation in Basal Forebrain Results in Dysfunction of the Cholinergic Circuitry**
Efrain Sanchez-Ortiz, Daishi Yui, Dongli Song, Yun Li, John L. Rubenstein, Louis F. Reichardt, and Luis F. Parada
- 4118 **Targeted Deletion of ERK5 MAP Kinase in the Developing Nervous System Impairs Development of GABAergic Interneurons in the Main Olfactory Bulb and Behavioral Discrimination between Structurally Similar Odorants**
Junhui Zou, Yung-Wei Pan, Zhenshan Wang, Shih-Yu Chang, Wenbin Wang, Xin Wang, Cathy Tournier,⁴ Daniel R. Storm, and Zhengui Xia
- 4212 **Binaural Interactions Develop in the Auditory Brainstem of Children Who Are Deaf: Effects of Place and Level of Bilateral Electrical Stimulation**
Karen A. Gordon, Claire Salloum, Gurvinder S. Toor, Richard van Hoesel, and Blake C. Papsin
- 4271 **LIM Domain Only 4 (LMO4) Regulates Calcium-Induced Calcium Release and Synaptic Plasticity in the Hippocampus**
Zhaohong Qin, Xun Zhou, Mariana Gomez-Smith, Nihar R. Pandey, Kevin F. H. Lee, Diane C. Lagace, Jean-Claude Béïque, and Hsiao-Huei Chen

BEHAVIORAL/SYSTEMS/COGNITIVE

- 4032 **Understanding Low Reliability of Memories for Neutral Information Encoded under Stress: Alterations in Memory-Related Activation in the Hippocampus and Midbrain**
Shaozheng Qin, Erno J. Hermans, Hein J. F. van Marle, and Guillén Fernández
- 4049 **The Mechanism of Orientation Selectivity in Primary Visual Cortex without a Functional Map**
David Hansel and Carl van Vreeswijk
- 4092 **Variant Brain-Derived Neurotrophic Factor Val66Met Polymorphism Alters Vulnerability to Stress and Response to Antidepressants**
Hui Yu, Dong-Dong Wang, Yue Wang, Ting Liu, Francis S. Lee, and Zhe-Yu Chen

- 4163 **Repetitive Convulsant-Induced Seizures Reduce the Number But Not Precision of Hippocampal Place Cells**
Hai Lin, Balázs Hangya, Steven E. Fox, and Robert U. Muller
- 4179 **Perceptual Inference Predicts Contextual Modulations of Sensory Responses**
Timm Lochmann, Udo A. Ernst, and Sophie Denève
- 4230 **Cerebellar Contributions to Reach Adaptation and Learning Sensory Consequences of Action**
Jun Izawa, Sarah E. Criscimagna-Hemminger, and Reza Shadmehr
- 4247 **fMRI Repetition Suppression for Familiar But Not Arbitrary Actions with Tools**
Kenneth F. Valyear, Jason P. Gallivan, D. Adam McLean, and Jody C. Culham
- 4260 **Changes in Auditory Feedback Connections Determine the Severity of Speech Processing Deficits after Stroke**
Thomas M. Schofield, Will D. Penny, Klaas E. Stephan, Jennifer T. Crinion, Alan J. Thompson, Cathy J. Price, and Alexander P. Leff
- 4297 **Dynamic Causal Modeling of Spatiotemporal Integration of Phonological and Semantic Processes: An Electroencephalographic Study**
Gaëtan Yvert, Marcela Perrone-Bertolotti, Monica Baciú, and Olivier David

NEUROBIOLOGY OF DISEASE

- 4004 **Activation of Cannabinoid Receptor 2 Attenuates Leukocyte–Endothelial Cell Interactions and Blood–Brain Barrier Dysfunction under Inflammatory Conditions**
Servio H. Ramirez, János Haskó, Andrew Skuba, Shongshan Fan, Holly Dykstra, Ryan McCormick, Nancy Reichenbach, Istvan Krizbai, Anu Mahadevan, Ming Zhang, Ronald Tuma, Young-Jin Son, and Yuri Persidsky
- 4017 **Traumatic Alterations in GABA Signaling Disrupt Hippocampal Network Activity in the Developing Brain**
Volodymyr Dzhala, Guzel Valeeva, Joseph Glykys, Rustem Khazipov, and Kevin Staley
- 4145 **Mitofusin2 Mutations Disrupt Axonal Mitochondrial Positioning and Promote Axon Degeneration**
Albert L. Misko, Yo Sasaki, Elizabeth Tuck, Jeffrey Milbrandt, and Robert H. Baloh
- 4156 **Neuroplasticity in Cigarette Smokers Is Altered under Withdrawal and Partially Restituted by Nicotine Exposition**
Jessica Grundey, Nivethida Thirugnanasambandam, Kim Kaminsky, Anne Drees, Angela C. Skwirba, Nicolas Lang, Walter Paulus, and Michael A. Nitsche
- 4307 **Topologically Convergent and Divergent Structural Connectivity Patterns between Patients with Remitted Geriatric Depression and Amnesic Mild Cognitive Impairment**
Feng Bai, Ni Shu, Yonggui Yuan, Yongmei Shi, Hui Yu, Di Wu, Jinhui Wang, Mingrui Xia, Yong He, and Zhijun Zhang
- 4319 **Prostaglandin E₂-Mediated Attenuation of Mesocortical Dopaminergic Pathway Is Critical for Susceptibility to Repeated Social Defeat Stress in Mice**
Kohei Tanaka, Tomoyuki Furuyashiki, Shiho Kitaoka, Yuta Senzai, Yuki Imoto, Eri Segi-Nishida, Yuichi Deguchi, Richard M. Breyer, Matthew D. Breyer, and Shuh Narumiya

4330 *Correction:* The article “Competition for Visual Selection in the Oculomotor System” by David A. Markowitz, Ryan A. Shewcraft, Yan T. Wong, and Bijan Pesaran originally appeared on pages 9298–9306 of the June 22, 2011 issue. A correction to that article appears on page 4330.

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.