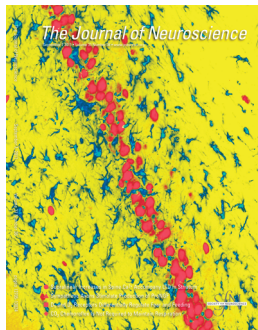


The Journal of Neuroscience

September 7, 2011 • Volume 31 Number 36 • www.jneurosci.org



Cover legend: Pseudocolored image of immunofluorescent labeling of neurons (NeuN, red) and astrocytes (GFAP, blue) in the hippocampal CA1 pyramidal cell layer of transgenic mice overexpressing truncated amyloid- β . In these animals, formation of a highly neurotoxic amyloid- β species, pyro-Glu-A β , induces progressing astrogliosis and neuronal loss. For more information, see the article by Alexandru et al. in this issue (pages 12790–12801).

i This Week in The Journal

Journal Club

- 12705 **Does Meditation Reduce Pain through a Unique Neural Mechanism?**
Tim V. Salomons and Aaron Kucyi

Brief Communications

- 12900 **Attentional Modulation of fMRI Responses in Human V1 Is Consistent with Distinct Spatial Maps for Chromatically Defined Orientation and Contrast**
Joo-Hyun Song, Jess Rowland, Robert M. McPeck, and Alex R. Wade

Articles

CELLULAR/MOLECULAR

- 12916 **Upregulation of KCC2 Activity by Zinc-Mediated Neurotransmission via the mZnR/GPR39 Receptor**
Ehud Chorin, Ofir Vinograd, Ilya Fleidervish, David Gilad, Sharon Herrmann, Israel Sekler, Elias Aizenman, and Michal Hershfinkel
- 12945 **Carbon Nanotube Scaffolds Tune Synaptic Strength in Cultured Neural Circuits: Novel Frontiers in Nanomaterial–Tissue Interactions**
Giada Cellot, Francesca Maria Toma, Zeynep Kasap Varley, Jummi Laishram, Ambra Villari, Mildred Quintana, Sara Cipollone, Maurizio Prato, and Laura Ballerini
- 13015 **A Ca²⁺ Threshold for Induction of Spike-Timing-Dependent Depression in the Mouse Striatum**
Tomomi Shindou, Mayumi Ochi-Shindou, and Jeffery R. Wickens

DEVELOPMENT/PLASTICITY/REPAIR

- 12708 **Transsynaptic Activity-Dependent Regulation of Axon Branching and Neurotrophin Expression *In Vivo***
Anda-Alexandra Calinescu, Tiecheng Liu, Michael M. Wang, and Jimo Borjigin
- 12802 **Pitx3 Is a Critical Mediator of GDNF-Induced BDNF Expression in Nigrostriatal Dopaminergic Neurons**
Changgeng Peng, Liviu Aron, Rüdiger Klein, Meng Li, Wolfgang Wurst, Nilima Prakash, and Weidong Le

- 12982 **Mitochondrial Ca²⁺ Uptake Is Essential for Synaptic Plasticity in Pain**
Hee Young Kim, Kwan Yeop Lee, Ying Lu, Jigong Wang, Lian Cui,
Sang Jeong Kim, Jin Mo Chung, and Kyungsoon Chung

BEHAVIORAL/SYSTEMS/COGNITIVE

- 12716 **Acquisition of Neural Learning in Cerebellum and Cerebral Cortex for Smooth Pursuit Eye Movements**
Jennifer X. Li, Javier F. Medina, Loren M. Frank, and Stephen G. Lisberger
- 12727 **Group II/III Metabotropic Glutamate Receptors Exert Endogenous Activity-Dependent Modulation of TRPV1 Receptors on Peripheral Nociceptors**
Susan M. Carlton, Shengtai Zhou, Rosann Govea, and Junhui Du
- 12738 **Synaptic Properties of Thalamic Input to the Subgranular Layers of Primary Somatosensory and Auditory Cortices in the Mouse**
Angela N. Viaene, Iraklis Petrof, and S. Murray Sherman
- 12748 **Gamma-Band Activation Predicts Both Associative Memory and Cortical Plasticity**
Drew B. Headley and Norman M. Weinberger
- 12759 **Calcineurin and Its Regulator Sra/DSCR1 Are Essential for Sleep in *Drosophila***
Yasuhiro Nakai, Junjiro Horiuchi, Manabu Tsuda, Satomi Takeo, Shin Akahori,
Takashi Matsuo, Kazuhiko Kume, and Toshiro Aigaki
- 12767 **Dynamics of Population Response to Changes of Motion Direction in Primary Visual Cortex**
Wei Wu, Paul H. Tiesinga, Thomas R. Tucker, Stephen R. Mitroff,
and David Fitzpatrick
- 12816 **Contextual Novelty Modulates the Neural Dynamics of Reward Anticipation**
Nico Bunzeck, Marc Guitart-Masip, Ray J. Dolan, and Emrah Düzel
- 12823 **Spinal 5-HT₃ Receptor Activation Induces Behavioral Hypersensitivity via a Neuronal-Glial-Neuronal Signaling Cascade**
Ming Gu, Kan Miyoshi, Ronald Dubner, Wei Guo, Shiping Zou, Ke Ren,
Koichi Noguchi, and Feng Wei
- 12837 **Depth-Dependent Temporal Response Properties in Core Auditory Cortex**
G. Björn Christianson, Maneesh Sahani, and Jennifer F. Linden
- 12849 **The Neural and Cognitive Time Course of Theory of Mind**
Joseph P. McCleery, Andrew D.R. Surtees, Katharine A. Graham,
John E. Richards, and Ian A. Apperly
- 12855 **Variability of the Relationship between Electrophysiology and BOLD-fMRI across Cortical Regions in Humans**
Christopher R. Conner, Timothy M. Ellmore, Thomas A. Pieters,
Michael A. DiSano, and Nitin Tandon
- 12866 **Nucleus Accumbens Dopamine/Glutamate Interaction Switches Modes to Generate Desire versus Dread: D₁ Alone for Appetitive Eating But D₁ and D₂ Together for Fear**
Jocelyn M. Richard and Kent C. Berridge
- 12906 **Direct Structural Connections between Voice- and Face-Recognition Areas**
Helen Blank, Alfred Anwander, and Katharina von Kriegstein

- 12936 **Differential BOLD Activity Associated with Subjective and Objective Reports during “Blindsight” in Normal Observers**
Guido Hesselmann, Martin Hebart, and Rafael Malach
- 12954 **Default Mode of Brain Function in Monkeys**
Dante Mantini, Annelis Gerits, Koen Nelissen, Jean-Baptiste Durand, Olivier Joly, Luciano Simone, Hiromasa Sawamura, Claire Wardak, Guy A. Orban, Randy L. Buckner, and Wim Vanduffel
- 12963 **Matrix Metalloproteinase-9 Contributes to Kindled Seizure Development in Pentylentetrazole-Treated Mice by Converting Pro-BDNF to Mature BDNF in the Hippocampus**
Hiroyuki Mizoguchi, Junya Nakade, Masaki Tachibana, Daisuke Ibi, Eiichi Someya, Hiroyuki Koike, Hiroyuki Kamei, Toshitaka Nabeshima, Shigeyoshi Itohara, Kazuhiro Takuma, Makoto Sawada, Jun Sato, and Kiyofumi Yamada
- 12972 **Global Functional Connectivity Deficits in Schizophrenia Depend on Behavioral State**
Roy Salomon, Maya Bleich-Cohen, Avital Hahamy-Dubossarsky, Ilan Dinstien, Ronit Weizman, Michael Poyurovsky, Marina Kupchik, Moshe Kotler, Talma Hendler, and Rafael Malach

NEUROBIOLOGY OF DISEASE

- 12778 **Abnormalities in the Climbing Fiber-Purkinje Cell Circuitry Contribute to Neuronal Dysfunction in *ATXN1*[82Q] Mice**
Justin A. Barnes, Blake A. Ebner, Lisa A. Duvick, Wangcai Gao, Gang Chen, Harry T. Orr, and Timothy J. Ebner
- 12790 **Selective Hippocampal Neurodegeneration in Transgenic Mice Expressing Small Amounts of Truncated A β Is Induced by Pyroglutamate-A β Formation**
Anca Alexandru, Wolfgang Jagla, Sigrid Graubner, Andreas Becker, Christoph Bäuscher, Stephanie Kohlmann, Reinhard Sedlmeier, Kerstin A. Raber, Holger Cynis, Raik Rönicke, Klaus G. Reymann, Elisabeth Petrasch-Parwez, Maïke Hartlage-Rübsamen, Alexander Waniek, Steffen Rossner, Stephan Schilling, Alexander P. Osmand, Hans-Ulrich Demuth, and Stephan von Hörsten
- 12880 **Breathing without CO₂ Chemosensitivity in Conditional *Phox2b* Mutants**
Nelina Ramanantsoa, Marie-Rose Hirsch, Muriel Thoby-Brisson, Véronique Dubreuil, Julien Bouvier, Pierre-Louis Ruffault, Boris Matrot, Gilles Fortin, Jean-François Brunet, Jorge Gallego, and Christo Goridis
- 12889 **Vulnerability to Depression: From Brain Neuroplasticity to Identification of Biomarkers**
Aurélië Blugeot, Cyril Rivat, Elodie Bouvier, Jenny Molet, Amandine Mouchard, Brigitte Zeau, Christophe Bernard, Jean-Jacques Benoliel, and Chrystel Becker
- 12927 **Fukutin-Related Protein Alters the Deposition of Laminin in the Eye and Brain**
Mark R. Ackroyd, Charlotte Whitmore, Sarah Prior, Manuja Kaluarachchi, Margareta Nikolic, Ulrike Mayer, Francesco Muntoni, and Susan C. Brown
- 12992 **Microglial Cells Contribute to Endogenous Brain Defenses after Acute Neonatal Focal Stroke**
Joel V. Faustino, Xia Wang, Cali E. Johnson, Alexander Klibanov, Nikita Derugin, Michael F. Wendland, and Zinaida S. Vexler

13002 Early Changes in Cerebellar Physiology Accompany Motor Dysfunction in the Polyglutamine Disease Spinocerebellar Ataxia Type 3
Vikram G. Shakkottai, Maria do Carmo Costa, James M. Dell'Orco,
Ananthakrishnan Sankaranarayanan, Heike Wulff, and Henry L. Paulson

13023 Corrections:

The article "Dopamine Acts as a Partial Agonist for α 2A Adrenoceptor in Melanin-Concentrating Hormone Neurons," by Christian O. Alberto, Robert B. Trask, and Michiru Hirasawa, originally appeared on pages 10671–10676 of the July 20, 2011 issue. A correction to that article appears on p. 13023.

The article "Neural Crest and Ectodermal Cells Intermix in the Nasal Placode to Give Rise to GnRH-1 Neurons, Sensory Neurons, and Olfactory Ensheathing Cells," by Paolo Emanuele Forni, Carol Taylor-Burds, Vida Senkus Melvin, Taylor Williams and Susan Wray, originally appeared on pages 6915–6927 of the May 4, 2011 issue. A correction to that article appears on p. 13023.

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.