The Journal of Neuroscience

December 9, 2009 • Volume 29 Number 49 • www.jneurosci.org



Cover legend: Light microscope image of a cresylviolet stained parasagittal mouse cerebellum section after laser capture microdissection of individual Purkinje neurons for gene expression profiling. For more information, see the article by Bitoun et al. in this issue (pages 15366 – 15374).

i This Week in The Journal

Journal Club

- 15351 The Role of the Bed Nucleus of the Stria Terminalis in Learning to Fear Anna K. Radke
- 15353 Neuronal Degeneration in a Viral Model of Multiple Sclerosis
 Raphael Schneider

Brief Communications

- 15410 Olfactory Impairment Predicts Brain Atrophy in Parkinson's Disease
 Elise Wattendorf, Antje Welge-Lüssen, Klaus Fiedler, Deniz Bilecen,
 Markus Wolfensberger, Peter Fuhr, Thomas Hummel, and Birgit Westermann
- Neuronal Avalanches Imply Maximum Dynamic Range in Cortical Networks at Criticality
 Woodrow L. Shew, Hongdian Yang (杨黉典), Thomas Petermann, Rajarshi Roy, and Dietmar Plenz

Articles

CELLULAR/MOLECULAR

- 15414 Ca_v1.3 Channel Voltage Dependence, Not Ca²⁺ Selectivity, Drives Pacemaker Activity and Amplifies Bursts in Nigral Dopamine Neurons
 Ilva Putzier, Paul H. M. Kullmann, John P. Horn, and Edwin S. Levitan
- 15499 Atypical Functional Properties of GluK3-Containing Kainate Receptors
 David Perrais, Françoise Coussen, and Christophe Mulle
- 15531 Cellular Mechanisms Underlying Burst Firing in Substantia Nigra Dopamine Neurons Sarah N. Blythe, David Wokosin, Jeremy F. Atherton, and Mark D. Bevan
- 15551 Activation of Glycogen Synthase Kinase-3β Is Required for Hyperdopamine and D₂
 Receptor-Mediated Inhibition of Synaptic NMDA Receptor Function in the Rat
 Prefrontal Cortex
 Yan-Chun Li, Dong Xi, Joy Roman, Yue-Qiao Huang, and Wen-Jun Gao
- 15586 Neuromodulation at Single Presynaptic Boutons of Cerebellar Parallel Fibers Is Determined by Bouton Size and Basal Action Potential-Evoked Ca Transient Amplitude

Wei Zhang and David J. Linden

DEVELOPMENT/PLASTICITY/REPAIR

15434 cAMP-Dependent Axon Guidance Is Distinctly Regulated by Epac and Protein Kinase A

Andrew J. Murray, Steven J. Tucker, and Derryck A. Shewan

15479 Functional Excitatory Microcircuits in Neonatal Cortex Connect Thalamus and Layer 4

Cuiping Zhao, Joseph P. Y. Kao, and Patrick O. Kanold

15489 No Nogo66- and NgR-Mediated Inhibition of Regenerating Axons in the Zebrafish Optic Nerve

Houari Abdesselem, Aleksandra Shypitsyna, Gonzalo P. Solis, Vsevolod Bodrikov, and Claudia A. O. Stuermer

15542 NFIL3 and cAMP Response Element-Binding Protein Form a Transcriptional Feedforward Loop that Controls Neuronal Regeneration-Associated Gene Expression Harold D. MacGillavry, Floor J. Stam, Marion M. Sassen, Linde Kegel, William T. J. Hendriks, Joost Verhaagen, August B. Smit, and Ronald E. van Kesteren

BEHAVIORAL/SYSTEMS/COGNITIVE

15375 Phospholipase C β4 in the Medial Septum Controls Cholinergic Theta Oscillations and Anxiety Behaviors

Jonghan Shin, Gangadharan Gireesh, Seong-Wook Kim, Duk-Soo Kim, Sukyung Lee, Yeon-Soo Kim, Masahiko Watanabe, and Hee-Sup Shin

15386 Associatively Learned Representations of Taste Outcomes Activate Taste-Encoding Neural Ensembles in Gustatory Cortex

Michael P. Saddoris, Peter C. Holland, and Michela Gallagher

15420 Millisecond Timescale Disinhibition Mediates Fast Information Transmission through an Avian Basal Ganglia Loop

Arthur Leblois, Ágnes L. Bodor, Abigail L. Person, and David J. Perkel

15455 Four Projection Streams from Primate V1 to the Cytochrome Oxidase Stripes of V2
Frederick Federer, Jennifer M. Ichida, Janelle Jeffs, Ingo Schiessl,
Niall McLoughlin, and Alessandra Angelucci

15511 Brain-Derived Neurotrophic Factor Signaling in the HVC Is Required for Testosterone-Induced Song of Female Canaries

Tessa E. Hartog, Falk Dittrich, Anton W. Pieneman, René F. Jansen, Carolina Frankl-Vilches, Volkmar Lessmann, Christina Lilliehook, Steven A. Goldman, and Manfred Gahr

15564 Temporal Envelope of Time-Compressed Speech Represented in the Human Auditory
Cortex

Kirill V. Nourski, Richard A. Reale, Hiroyuki Oya, Hiroto Kawasaki, Christopher K. Kovach, Haiming Chen, Matthew A. Howard III, and John F. Brugge

15575 Altered Sleep Homeostasis after Restraint Stress in 5-HTT Knock-Out Male Mice: A Role for Hypocretins

Adeline Rachalski, Chloé Alexandre, Jean-François Bernard, Françoise Saurini, Klaus-Peter Lesch, Michel Hamon, Joëlle Adrien, and Véronique Fabre

15601 Dynamic Reweighting of Visual and Vestibular Cues during Self-Motion Perception Christopher R. Fetsch, Amanda H. Turner, Gregory C. DeAngelis, and Dora E. Angelaki

NEUROBIOLOGY OF DISEASE

15355 The Lysosomal Sialic Acid Transporter Sialin Is Required for Normal CNS Myelination

Laura M. Prolo, Hannes Vogel, and Richard J. Reimer

15366 AF4 Is a Critical Regulator of the IGF-1 Signaling Pathway during Purkinje Cell Development

Emmanuelle Bitoun, Mattéa J. Finelli, Peter L. Oliver, Sheena Lee, and Kay E. Davies

15397 Cytotoxic CD8⁺ T Cell–Neuron Interactions: Perforin-Dependent Electrical Silencing Precedes But Is Not Causally Linked to Neuronal Cell Death

Sven G. Meuth, Alexander M. Herrmann, Ole J. Simon, Volker Siffrin, Nico Melzer, Stefan Bittner, Patrick Meuth, Harald F. Langer, Stefan Hallermann, Nadia Boldakowa, Josephine Herz, Thomas Munsch, Peter Landgraf, Orhan Aktas, Manfred Heckmann, Volkmar Lessmann, Thomas Budde, Bernd C. Kieseier, Frauke Zipp, and Heinz Wiendl

15445 Dramatic Reduction of PrP^C Level and Glycosylation in Peripheral Nerves following PrP Knock-Out from Schwann Cells Does Not Prevent Transmissible Spongiform Encephalopathy Neuroinvasion

Barry M. Bradford, Nadia L. Tuzi, M. Laura Feltri, Caroline McCorquodale, Enrico Cancellotti, and Jean C. Manson

15472 Brain-Derived Neurotrophic Factor Reduces Amyloidogenic Processing through Control of SORLA Gene Expression

Michael Rohe, Michael Synowitz, Rainer Glass, Steven M. Paul, Anders Nykjaer, and Thomas E. Willnow

15520 Distinct Dose-Dependent Cortical Neuronal Migration and Neurite Extension Defects in Lis1 and *Ndel1* Mutant Mice

Yong Ha Youn, Tiziano Pramparo, Shinji Hirotsune, and Anthony Wynshaw-Boris

Correction: In the article "A Comparative Magnetic Resonance Imaging Study of the Anatomy, Variability, and Asymmetry of Broca's Area in the Human and Chimpanzee Brain" by Simon S. Keller, Neil Roberts, and William Hopkins, which appeared on pages 14607–14616 of the November 18, 2009 issue, there was an error. The authors reported that a diagonal sulcus was not identified in 30 chimpanzee subjects using magnetic resonance imaging (MRI). Since the publication of this article, the first author has completed an assessment of the frequency of the diagonal sulcus in an independent sample of 83 postmortem chimpanzee cerebral hemispheres at the Central Africa Museum in Tervuren, Belgium, with Dr. Emmanuel Gilissen. A clear sulcus was identified lying between the inferior precentral sulcus and fronto-orbital sulcus—suggestive of a diagonal sulcus—in at least 15 of these hemispheres. These more direct observations are likely to be more reliable than those that led to the claim in this article that the diagonal sulcus might not exist in the chimpanzee brain. The detailed results of this postmortem analysis will be published in the near future.

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.