The Journal of Neuroscience

November 3, 2004 • Volume 24 Number 44 www.jneurosci.org



Cover picture: A series of confocal optical sections through the synaptic terminal of a living bipolar neuron from a goldfish retina, showing the locations of synaptic ribbons (green dots). Ribbons were tagged with a fluorescently labeled peptide that binds to the protein RIBEYE, a major component of the ribbon. Visualizing ribbons in living cells facilitates study of ribbon function at synapses that release neurotransmitter tonically. For details, see the article by Zenisek et al. in this issue (pages 9752–9759).

i This Week in The Journal

Brief Communications

9897 Spiral Waves in Disinhibited Mammalian Neocortex Xiaoying Huang, William C. Troy, Qian Yang, Hongtao Ma, Carlo R. Laing, Steven J. Schiff, and Jian-Young Wu

Articles

CELLULAR/MOLECULAR

9752 Visualizing Synaptic Ribbons in the Living Cell David Zenisek, Nicole K. Horst, Christien Merrifield, Peter Sterling, and Gary Matthews

9760 Brain-Derived Neurotrophic Factor Induces Mammalian Target of Rapamycin-Dependent Local Activation of Translation Machinery and Protein Synthesis in Neuronal Dendrites Nobuyuki Takei, Naoko Inamura, Mihoko Kawamura, Hisaaki Namba, Kenta Hara, Kazuyoshi Yonezawa, and Hiroyuki Nawa

- 9847 The Kinetic Profile of Intracellular Calcium Predicts Long-Term Potentiation and Long-Term Depression Iskander Ismailov, Djanenkhodja Kalikulov, Takafumi Inoue, and Michael J. Friedlander
- 9888 Glial Nitric Oxide-Mediated Long-Term Presynaptic Facilitation Revealed by Optical Imaging in Rat Spinal Dorsal Horn Hiroshi Ikeda and Kazuyuki Murase
- **9921** HCN2 and HCN1 Channels Govern the Regularity of Autonomous Pacemaking and Synaptic Resetting in Globus Pallidus Neurons C. Savio Chan, Ryuichi Shigemoto, Jeff N. Mercer, and D. James Surmeier
- **9944** Macrophage Migration Inhibitory Factor: An Intracellular Inhibitor of Angiotensin II-Induced Increases in Neuronal Activity Chengwen Sun, Hongwei Li, Lin Leng, Mohan K. Raizada, Richard Bucala, and Colin Sumners
- **9953** Circuitry for Associative Plasticity in the Amygdala Involves Endocannabinoid Signaling Shahnaz C. Azad, Krisztina Monory, Giovanni Marsicano, Benjamin F. Cravatt, Beat Lutz, Walter Zieglgänsberger, and Gerhard Rammes

| 9993 | Glycogen Synthase Kinase-3β Phosphorylates Bax and Promotes Its Mitochondrial Localization during Neuronal Apoptosis Daniel A. Linseman, Brent D. Butts, Thomas A. Precht, Reid A. Phelps, Shoshona S. Le, Tracey A. Laessig, Ron J. Bouchard, Maria L. Florez-McClure, and Kim A. Heidenreich |
|-------|--|
| 10003 | p53 Activation Domain 1 Is Essential for PUMA Upregulation and p53-Mediated Neuronal Cell Death Sean P. Cregan, Nicole A. Arbour, Jason G. MacLaurin, Steven M. Callaghan, Andre Fortin, Eric C. C. Cheung, Daniel S. Guberman, David S. Park, and Ruth S. Slack |
| DEVEL | DPMENT/PLASTICITY/REPAIR |
| 9779 | Cytokine-Induced Activation of Signal Transducer and Activator of Transcription in Photoreceptor Precursors Regulates Rod Differentiation in the Developing Mouse Retina Kun Do Rhee, Olivier Goureau, Shiming Chen, and Xian-Jie Yang |
| 9789 | An Early Broad Competence of Motoneurons to Express <i>ER81</i> Is Later Sculpted by the Periphery Guoying Wang and Sheryl A. Scott |
| 9799 | Superparamagnetic Iron Oxide-Labeled Schwann Cells and Olfactory Ensheathing Cells Can Be Traced <i>In Vivo</i> by Magnetic Resonance Imaging and Retain Functional Properties after Transplantation into the CNS Mark D. Dunning, Andras Lakatos, Louiza Loizou, Mikko Kettunen, Charles ffrench-Constant, Kevin M. Brindle, and Robin J. M. Franklin |
| 9826 | Activity Affects Dendritic Shape and Synapse Elimination during Steroid Controlled Dendritic Retraction in <i>Manduca sexta</i> Carsten Duch and Tim Mentel |
| 9878 | Developmental Roles of p73 in Cajal-Retzius Cells and Cortical Patterning Gundela Meyer, Alfredo Cabrera Socorro, Carlos Gustavo Perez Garcia, Luis Martinez Millan, Nancy Walker, and Daniel Caput |
| 9933 | Target-Dependent Release of a Presynaptic Neuropeptide Regulates the Formation and Maturation of Specific Synapses in <i>Aplysia</i> Jiang-Yuan Hu, Jonathan Goldman, Fang Wu, and Samuel Schacher |
| 9962 | Molecular Organization of the Ferret Visual Thalamus Hiroshi Kawasaki, Justin C. Crowley, Frederick J. Livesey, and Lawrence C. Katz |
| 9977 | Caspase-7 Expanded Function and Intrinsic Expression Level Underlies Strain-Specific Brain Phenotype of <i>Caspase-3</i> -Null Mice Caroline Houde, Kathleen G. Banks, Nathalie Coulombe, Dita Rasper, Erich Grimm, Sophie Roy, Elizabeth M. Simpson, and Donald W. Nicholson |
| BEHAV | IORAL/SYSTEMS/COGNITIVE |
| 9745 | The S6KII (rsk) Gene of Drosophila melanogaster Differentially Affects an Operant and a Classical Learning Task Gabriele Putz, Franco Bertolucci, Thomas Raabe, Troy Zars, and Martin Heisenberg |
| 9770 | Electrical Coupling among Irregular-Spiking GABAergic Interneurons Expressing Cannabinoid Receptors Mario Galarreta, Ferenc Erdélyi, Gábor Szabó, and Shaul Hestrin |
| 9811 | Entorhinal Cortex Lesions Disrupt the Relational Organization of Memory in Monkeys Cindy A. Buckmaster, Howard Eichenbaum, David G. Amaral, Wendy A. Suzuki, and Peter R. Rapp |

| 9862 | Deletion of N-Type Calcium Channels Alters Ethanol Reward and Reduces Ethanol Consumption in Mice Philip M. Newton, Christine J. Orr, Melisa J. Wallace, Chanki Kim, Hee-Sup Shin, and Robert O. Messing |
|-------|---|
| 9870 | Modulation of an Afterhyperpolarization by the Substantia Nigra Induces Pauses in the Tonic Firing of Striatal Cholinergic Interneurons John N. J. Reynolds, Brian I. Hyland, and Jeff R. Wickens |
| 9914 | Phasic Activation of Monkey Locus Ceruleus Neurons by Simple Decisions in a Forced-Choice Task Edwin C. Clayton, Janusz Rajkowski, Jonathan D. Cohen, and Gary Aston-Jones |
| 9971 | Stimulation of the Posterior Parietal Cortex Interferes with Arm Trajectory Adjustments during the Learning of New Dynamics Valeria Della-Maggiore, Nicole Malfait, David J. Ostry, and Tomáš Paus |
| 9985 | Transcranial Direct Current Stimulation during Sleep Improves Declarative Memory Lisa Marshall, Matthias Mölle, Manfred Hallschmid, and Jan Born |
| 10013 | Endocannabinoids Link Feeding State and Auditory Perception-Related Gene Expression |
| | Ken Soderstrom, Qiyu Tian, Marta Valenti, and Vincenzo Di Marzo |
| | BIOLOGY OF DISEASE |
| 9838 | Microglial Phagocytosis of Fibrillar β -Amyloid through a β_1 Integrin-Dependent Mechanism Jessica Koenigsknecht and Gary Landreth |
| 9903 | Late Calcium EDTA Rescues Hippocampal CA1 Neurons from Global Ischemia- Induced Death Agata Calderone, Teresa Jover, Toshihiro Mashiko, Kyung-min Noh, Hidenobu Tanaka, Michael V. L. Bennett, and R. Suzanne Zukin |
| 10022 | A Novel Epilepsy Mutation in the Sodium Channel SCN1A Identifies a Cytoplasmic Domain for β Subunit Interaction J. Spampanato, J. A. Kearney, G. de Haan, D. P. McEwen, A. Escayg, I. Aradi, B. T. MacDonald, S. I. Levin, I. Soltesz, P. Benna, E. Montalenti, L. L. Isom, A. L. Goldin, and M. H. Meisler |
| | <i>Correction:</i> For the article "Entrainment to Video Displays in Primary Visual Cortex of Macaque and Humans," by Patrick E. Williams, Ferenc Mechler, James Gordon, Robert Shapley, and Michael J. Hawken, which appeared on pages 8278 – 8288 of the September 22, 2004 issue, the authors would like to add a reference (given below). The paper by Gur and Snodderly (1997) includes examples of single units recorded in awake macaque V1 that were phase locked to the 60 Hz refresh rate of a CRT video display. |
| | Gur M, Snodderly DM (1997) A dissociation between brain activity and perception: chromatically opponent cortical neurons signal chromatic flicker that is not perceived. Vision Res 37:377–382. |
| | <i>Errata:</i> In the article "Dynamic Sound Localization during Rapid Eye–Head Gaze Shifts," by Joyce Vliegen, Tom J. Van Grootel, and A. John Van Opstal, which appeared on pages 9291–9302 of the October 20, 2004 issue, links to on-line supplemental material were not incorporated. Supplementary Tables IIA, IIB, IIIA, and IIIB are available on-line at http://www.jneurosci.org/cgi/content/full/24/42/9291/DC1. |
| | |

Persons interested in becoming members of the Society for Neuroscience should contact the Membership Department, Society for Neuroscience, 11 Dupont Circle, NW, Suite 500, Washington, DC 20036, phone 202-462-6688.

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.sfn.org/content/Publications/TheJournalofNeuroscience/BriefComm/ifa.html).

Submissions should be submitted online using the following url: http://sfn.manuscriptcentral.com. Please contact the Central Office, via phone, fax, or e-mail with any questions. Our contact information is as follows: phone, 202-462-6688; fax, 202-462-1547; e-mail, jn@sfn.org.