

The Journal of Neuroscience

December 1, 2010 • Volume 30 Number 48 • www.jneurosci.org



Cover legend: A hippocampal pyramidal neuron (red) innervated by GABAergic axons (black) depicted in traditional Chinese watercolor. Elevation of neuronal activity rapidly increases the strength of these synapses, as well as the number of active contacts, through BDNF-dependent signaling. Artwork by Jiafeng Zhao of the Oriental Morning Post, Shanghai, China. For more information, see the article by Peng et al. in this issue (pages 16220–16231).

i This Week in The Journal

Journal Club

- 16065 **Cerebellar Modules: Individual or Composite Entities?**
Nadia L. Cerminara

Brief Communications

- 16376 **Emergence of Lamina-Specific Retinal Ganglion Cell Connectivity by Axon Arbor Retraction and Synapse Elimination**
Ting-Wen Cheng, Xiao-Bo Liu, Regina L. Faulkner, Alexander H. Stephan, Ben A. Barres, Andrew D. Huberman, and Hwai-Jong Cheng

Articles

CELLULAR/MOLECULAR

- 16137 **Estradiol Acutely Potentiates Hippocampal Excitatory Synaptic Transmission through a Presynaptic Mechanism**
Tereza Smejkalova and Catherine S. Woolley
- 16170 **Modulation of BK Channel Gating by the $\beta 2$ Subunit Involves Both Membrane-Spanning and Cytoplasmic Domains of Slo1**
Urvi S. Lee, Jingyi Shi, and Jianmin Cui
- 16232 **Channel Modulation and the Mechanism of Light Adaptation in Mouse Rods**
Jeannie Chen, Michael L. Woodruff, Tian Wang, Francis A. Concepcion, Daniel Tranchina, and Gordon L. Fain
- 16332 **Dynamics of Excitability over Extended Timescales in Cultured Cortical Neurons**
Asaf Gal, Danny Eytan, Avner Wallach, Maya Sandler, Jackie Schiller, and Shimon Marom
- 16343 **Synaptic Localization and Activity of ADAM10 Regulate Excitatory Synapses through N-Cadherin Cleavage**
Matteo Malinverno, Mario Carta, Roberta Epis, Elena Marcello, Chiara Verpelli, Flaminio Cattabeni, Carlo Sala, Christophe Mulle, Monica Di Luca, and Fabrizio Gardoni
- 16391 **Enzymatic Conversion of Odorants in Nasal Mucus Affects Olfactory Glomerular Activation Patterns and Odor Perception**
Ayumi Nagashima and Kazushige Touhara

DEVELOPMENT/PLASTICITY/REPAIR

- 16114 **Bax Regulates Production of Superoxide in Both Apoptotic and Nonapoptotic Neurons: Role of Caspases**
Rebecca A. Kirkland, Geraldine M. Saavedra, Brian S. Cummings, and James L. Franklin

- 16128 **H-Reflex Up-Conditioning Encourages Recovery of EMG Activity and H-Reflexes after Sciatic Nerve Transection and Repair in Rats**
Yi Chen, Yu Wang, Lu Chen, Chenyou Sun, Arthur W. English, Jonathan R. Wolpaw, and Xiang Yang Chen
- 16220 **Postsynaptic Spiking Homeostatically Induces Cell-Autonomous Regulation of Inhibitory Inputs via Retrograde Signaling**
Yi-Rong Peng, Si-Yu Zeng, He-Ling Song, Min-Yin Li, Maki K. Yamada, and Xiang Yu
- 16272 **Enhanced Artemin/GFR α 3 Levels Regulate Mechanically Insensitive, Heat-Sensitive C-Fiber Recruitment after Axotomy and Regeneration**
Michael P. Jankowski, Kristofer K. Rau, Deepak J. Soneji, Collene E. Anderson, and H. Richard Koerber
- 16304 **Visual Experience Induces Long-Term Potentiation in the Primary Visual Cortex**
Sam F. Cooke and Mark F. Bear
- 16356 **The Sympathetic Neurotransmitter Switch Depends on the Nuclear Matrix Protein Satb2**
Galina Apostolova, Bernhard Loy, Roland Dorn, and Georg Dechant
- 16365 **Enhancement of Odor Avoidance Regulated by Dopamine Signaling in *Caenorhabditis elegans***
Koutarou D. Kimura, Kosuke Fujita, and Isao Katsura
- 16383 **NG2 Glia Generate New Oligodendrocytes But Few Astrocytes in a Murine Experimental Autoimmune Encephalomyelitis Model of Demyelinating Disease**
Richa B. Tripathi, Leanne E. Rivers, Kaylene M. Young, Francoise Jamen, and William D. Richardson

BEHAVIORAL/SYSTEMS/COGNITIVE

- 16068 **Anterior Cingulate Synapses in Prefrontal Areas 10 and 46 Suggest Differential Influence in Cognitive Control**
Maria Medalla and Helen Barbas
- 16082 **Antidepressant Effect of Optogenetic Stimulation of the Medial Prefrontal Cortex**
Herbert E. Covington III, Mary Kay Lobo, Ian Maze, Vincent Vialou, James M. Hyman, Samir Zaman, Quincey LaPlant, Ezekiel Mouzon, Subroto Ghose, Carol A. Tamminga, Rachael L. Neve, Karl Deisseroth, and Eric J. Nestler
- 16149 **Ventral Tegmental Afferents in Stress-Induced Reinstatement: The Role of cAMP Response Element-Binding Protein**
Lisa A. Briand, Fair M. Vassoler, R. Christopher Pierce, Rita J. Valentino, and Julie A. Blendy
- 16180 **Leptin Rapidly Improves Glucose Homeostasis in Obese Mice by Increasing Hypothalamic Insulin Sensitivity**
Christiane Koch, Rachael A. Augustine, Juliane Steger, Goutham K. Ganjam, Jonas Benzler, Corinna Pracht, Chrishanthi Lowe, Michael W. Schwartz, Peter R. Shepherd, Greg M. Anderson, David R. Grattan, and Alexander Tups
- 16188 **The Prefrontal Cortex Communicates with the Amygdala to Impair Learning after Acute Stress in Females but Not in Males**
Lisa Y. Maeng, Jaylyn Waddell, and Tracey J. Shors
- 16197 **Response Characteristics of Basolateral and Centromedial Neurons in the Primate Amygdala**
Clayton P. Mosher, Prisca E. Zimmerman, and Katalin M. Gothard
- 16241 **Motor Learning Reduces Eye Movement Variability through Reweighting of Sensory Inputs**
Cong C. Guo (郭聪) and Jennifer L. Raymond
- 16262 **Differential Cone Pathway Influence on Intrinsically Photosensitive Retinal Ganglion Cell Subtypes**
Tiffany M. Schmidt and Paulo Kofuji

- 16293 **Neuronal Activity in the Visual Cortex Reveals the Temporal Order of Cognitive Operations**
Sancho I. Moro, Michiel Tolboom, Paul S. Khayat, and Pieter R. Roelfsema
- 16324 **Anterior Insula Integrates Information about Salience into Perceptual Decisions about Pain**
Katja Wiech, Chia-shu Lin, Kay H. Brodersen, Ulrike Bingel, Markus Ploner, and Irene Tracey
- 16399 **Caloric Restriction Experience Reprograms Stress and Orexigenic Pathways and Promotes Binge Eating**
Diana E. Pankevich, Sarah L. Teegarden, Andrew D. Hedin, Catherine L. Jensen, and Tracy L. Bale

NEUROBIOLOGY OF DISEASE

- 16091 **The Toll-Like Receptor-3 Agonist Polyinosinic:Polycytidylic Acid Triggers Nigrostriatal Dopaminergic Degeneration**
Michela Deleidi, Penelope J. Hallett, James B. Koprach, Chee-Yeun Chung, and Ole Isacson
- 16102 **Glial Fibrillary Tangles and JAK/STAT-Mediated Glial and Neuronal Cell Death in a *Drosophila* Model of Glial Tauopathy**
Kenneth J. Colodner and Mel B. Feany
- 16160 **Reduced Alzheimer's Disease β -Amyloid Deposition in Transgenic Mice Expressing S-Palmitoylation-Deficient APH1aL and Nicastrin**
Xavier Meckler, Jelita Roseman, Pritam Das, Haipeng Cheng, Susan Pei, Marcia Keat, Breanne Kassarian, Todd E. Golde, Angèle T. Parent, and Gopal Thinakaran
- 16208 **Phosphorylation Promotes Neurotoxicity in a *Caenorhabditis elegans* Model of TDP-43 Proteinopathy**
Nicole F. Liachko, Chris R. Guthrie, and Brian C. Kraemer
- 16249 **Emergent Dynamics of Fast Ripples in the Epileptic Hippocampus**
Jose M. Ibarz, Guglielmo Foffani, Elena Cid, Marion Inostroza, and Liset Menendez de la Prida
- 16284 **Quantification of Indirect Pathway Inhibition by the Adenosine A_{2a} Antagonist SYN115 in Parkinson Disease**
Kevin J. Black, Jonathan M. Koller, Meghan C. Campbell, Debra A. Gusnard, and Stephen I. Bandak
- 16314 **Lithium Ameliorates Nucleus Accumbens Phase-Signaling Dysfunction in a Genetic Mouse Model of Mania**
Kafui Dzirasa, Laurent Coque, Michelle M. Sidor, Sunil Kumar, Elizabeth A. Dancy, Joseph S. Takahashi, Colleen A. McClung, and Miguel A. L. Nicolelis

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.