

# The Journal of Neuroscience

September 23, 2015 • Volume 35 Number 38 • www.jneurosci.org



**Cover legend:** This illustration shows one hemisphere of a *Cxcr4*-GFP;*CXCL12*-RFP double-transgenic, embryonic mouse brain. The *Cxcr4*-GFP reporter (green) strongly labels thalamocortical axons, which enter the cerebral cortex rich in *CXCL12*-RFP fusion protein (red). The chemokine *CXCL12* ensures efficient intracortical progression of thalamocortical axons by interacting with its cognate receptor *CXCR4*. For more information, see the article by Abe et al. (pages 13053–13063).

## i This Week in The Journal

### Journal Club

- 12971 **Multiple Properties of Drug-Paired Cues May Precipitate Reinstatement**  
Matthew R. Castino and Shaun Yon-Seng Khoo
- 12974 **The Relationship of Tuning and Noise Correlations in Macaque Auditory Cortex**  
Elena Andreeva

### Articles

#### CELLULAR/MOLECULAR

- 13133 **RIM1/2-Mediated Facilitation of Cav1.4 Channel Opening Is Required for  $Ca^{2+}$ -Stimulated Release in Mouse Rod Photoreceptors**  
Chad P. Grabner, Maria A. Gandini, Renata Rehak, Yun Le, Gerald W. Zamponi, and Frank Schmitz
- 13148 **Phosphorylation by PKA and Cdk5 Mediates the Early Effects of Synapsin III in Neuronal Morphological Maturation**  
Alessandra Piccini, Laura E. Perlini, Laura Cancedda, Fabio Benfenati, and Silvia Giovedi
- 13160 **Postsynaptic Depolarization Enhances GABA Drive to Dorsomedial Hypothalamic Neurons through Somatodendritic Cholecystokinin Release**  
Karen M. Crosby, Dinara V. Baimoukhametova, Jaideep S. Bains, and Quentin J. Pittman
- 13206 **Aging-Related Hyperexcitability in CA3 Pyramidal Neurons Is Mediated by Enhanced A-Type  $K^+$  Channel Function and Expression**  
Dina Simkin, Shoai Hattori, Natividad Ybarra, Timothy F. Musial, Eric W. Buss, Hannah Richter, M. Matthew Oh, Daniel A. Nicholson, and John F. Disterhoft
- 13233 **Lipid Rafts Are Physiologic Membrane Microdomains Necessary for the Morphogenic and Developmental Functions of Glial Cell Line-Derived Neurotrophic Factor *In Vivo***  
Cynthia C. Tsui, Nicole A. Gabreski, Sarah J. Hein, and Brian A. Pierchala

#### DEVELOPMENT/PLASTICITY/REPAIR

- 13053 **Intermediate Progenitors Facilitate Intracortical Progression of Thalamocortical Axons and Interneurons through *CXCL12* Chemokine Signaling**  
Philipp Abe, Zoltán Molnár, Yi-Shiuan Tzeng, Dar-Ming Lai, Sebastian J. Arnold, and Ralf Stumm

## SYSTEMS/CIRCUITS

- 13006 Moderate Cortical Cooling Eliminates Thalamocortical Silent States during Slow Oscillation**  
Maxim Sheroziya and Igor Timofeev
- 13020 Dendritic Organization of Olfactory Inputs to Medial Amygdala Neurons**  
Sepideh Keshavarzi, John M. Power, Eva H. H. Albers, Robert K. S. Sullivan, and Pankaj Sah
- 13076 Interareal Spike-Train Correlations of Anterior Cingulate and Dorsal Prefrontal Cortex during Attention Shifts**  
Mariann Oemisch, Stephanie Westendorff, Stefan Everling, and Thilo Womelsdorf
- 13090 Rapid Task-Related Plasticity of Spectrotemporal Receptive Fields in the Auditory Midbrain**  
Sean J. Slee and Stephen V. David
- 13124 Histone Deacetylase Inhibition via RGFP966 Releases the Brakes on Sensory Cortical Plasticity and the Specificity of Memory Formation**  
Kasia M. Bieszczad, Kiro Bechay, James R. Rusche, Vincent Jacques, Shashi Kudugunti, Wenyan Miao, Norman M. Weinberger, James L. McGaugh, and Marcelo A. Wood
- 13171 Hunger States Control the Directions of Synaptic Plasticity via Switching Cell Type-Specific Subunits of NMDA Receptors**  
Yong Qi and Yunlei Yang
- 13219 Conditional Knock-Out of Vesicular GABA Transporter Gene from Starburst Amacrine Cells Reveals the Contributions of Multiple Synaptic Mechanisms Underlying Direction Selectivity in the Retina**  
Zhe Pei, Qiang Chen, David Koren, Benno Giammarinaro, Hector Acaron Ledesma, and Wei Wei

## BEHAVIORAL/COGNITIVE

- 12977 Representational Similarity of Body Parts in Human Occipitotemporal Cortex**  
Stefania Bracci, Alfonso Caramazza, and Marius V. Peelen
- 12994 Amygdala Signaling during Foraging in a Hazardous Environment**  
Alon Amir, Seung-Chan Lee, Drew B. Headley, Mohammad M. Herzallah, and Denis Pare
- 13043 Pallidal Deep Brain Stimulation Improves Higher Control of the Oculomotor System in Parkinson's Disease**  
Chrystalina A. Antoniadis, Pedro Rebelo, Christopher Kennard, Tipu Z. Aziz, Alexander L. Green, and James J. FitzGerald
- 13064 Perceptual Salience and Reward Both Influence Feedback-Related Neural Activity Arising from Choice**  
Bin Lou, Wha-Yin Hsu, and Paul Sajda
- 13103 Enhanced Neural Responses to Imagined Primary Rewards Predict Reduced Monetary Temporal Discounting**  
Shabnam Hakimi and Todd A. Hare
- 13110 Estrogen Receptor  $\beta$  Activation Rapidly Modulates Male Sexual Motivation through the Transactivation of Metabotropic Glutamate Receptor 1a**  
Aurore L. Seredynski, Jacques Balthazart, Gregory F. Ball, and Charlotte A. Cornil
- 13183 Flexible Use of Predictive Cues beyond the Orbitofrontal Cortex: Role of the Submedial Thalamic Nucleus**  
Fabien Alcaraz, Alain R. Marchand, Elisa Vidal, Alexandre Guillou, Angélique Faugère, Etienne Coutureau, and Mathieu Wolff

13194 **Losing Neutrality: The Neural Basis of Impaired Emotional Control without Sleep**  
Eti Ben Simon, Noga Oren, Haggai Sharon, Adi Kirschner, Noam Goldway,  
Hadas Okon-Singer, Rivi Tauman, Menton M. Deweese, Andreas Keil,  
and Talma Hendler

13257 **Age-Related Changes in 1/f Neural Electrophysiological Noise**  
Bradley Voytek, Mark A. Kramer, John Case, Kyle Q. Lepage,  
Zechari R. Tempesta, Robert T. Knight, and Adam Gazzaley

#### NEUROBIOLOGY OF DISEASE

12986 **PKR Inhibition Rescues Memory Deficit and ATF4 Overexpression in ApoE  $\epsilon$ 4 Human Replacement Mice**  
Yifat Segev, Iliana Barrera, Hadile Ounallah-Saad, Karin Wibrand, Ida Sporild,  
Adva Livne, Tali Rosenberg, Orit David, Meshi Mints, Clive R. Bramham,  
and Kobi Rosenblum

13029 **Complement C3-Deficient Mice Fail to Display Age-Related Hippocampal Decline**  
Qiaoqiao Shi, Kenneth J. Colodner, Sarah B. Matousek, Katherine Merry,  
Soyon Hong, Jessica E. Kenison, Jeffrey L. Frost, Kevin X. Le, Shaomin Li,  
Jean-Cosme Dodart, Barbara J. Caldarone, Beth Stevens, and Cynthia A. Lemere

13244 **Peripheral Neuropathy Induces HCN Channel Dysfunction in Pyramidal Neurons of the Medial Prefrontal Cortex**  
Steven Cordeiro Matos, Zizhen Zhang, and Philippe Séguéla

13266 **Correction:** The article “Motion Makes Sense: An Adaptive Motor-Sensory Strategy Underlies the Perception of Object Location in Rats”, by Inbar Saraf-Sinik, Eldad Assa, and Ehud Ahissar, appeared on pages 8777–8789 of the June 10, 2015 issue. A correction for this article appears on page 13266.

---

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](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](mailto:jn@sfn.org).