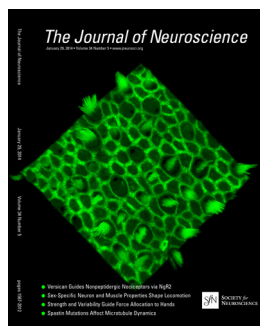


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Cover legend: Inner ear sensory organs from transgenic mice that express a γ -actin-GFP fusion protein (Fischer et al., 1998; Fischer et al., 2000) exhibit intense fluorescence in structures that are F-actin-rich. Movie shows the 3D rendering of a confocal stack acquired from an intact, live utricle, shortly after dissection from the ear of a γ -actin-GFP mouse. The stack is centered on the apical surface of the sensory epithelium. F-actin-rich stereocilia bundles protrude from the surface of hair cells, and circumferential bands of F-actin line the apical junctions of neighboring supporting cells. For more information, see the article by Burns and Corwin (pages 1998–2011).



i This Week in The Journal

Journal Club

- 1567 **Basic Mechanisms of Numerical Processing: Cross-Modal Number Comparisons and Symbolic Versus Nonsymbolic Numerosity in the Intraparietal Sulcus**
Christina F. Chick

Brief Communications

- 1942 **Developmental Changes in NMDA Receptor Subunit Composition at ON and OFF Bipolar Cell Synapses onto Direction-Selective Retinal Ganglion Cells**
Benjamin K. Stafford, Silvia J. H. Park, Kwoon Y. Wong, and Jonathan B. Demb

Articles

CELLULAR/MOLECULAR

- 1599 **HSF1 Protects Neurons through a Novel Trimerization- and HSP-Independent Mechanism**
Pragya Verma, Jason A. Pfister, Sathi Mallick, and Santosh R. D'Mello
- 1613 **Neuronal Activity and Glutamate Uptake Decrease Mitochondrial Mobility in Astrocytes and Position Mitochondria Near Glutamate Transporters**
Joshua G. Jackson, John C. O'Donnell, Hajime Takano, Douglas A. Coulter, and Michael B. Robinson
- 1710 **JIP1 Mediates Anterograde Transport of Rab10 Cargos during Neuronal Polarization**
Cai-Yun Deng, Wen-Liang Lei, Xiao-Hui Xu, Xiang-Chun Ju, Yang Liu, and Zhen-Ge Luo
- 1748 **Activity of the Principal Cells of the Olfactory Bulb Promotes a Structural Dynamic on the Distal Dendrites of Immature Adult-Born Granule Cells via Activation of NMDA Receptors**
Vincent Breton-Provencher, Daniel Coté, and Armen Saghatelian
- 1868 **The Hormone Prolactin Is a Novel, Endogenous Trophic Factor Able to Regulate Reactive Glia and to Limit Retinal Degeneration**
Edith Arnold, Stéphanie Thebault, German Baeza-Cruz, David Arredondo Zamarripa, Norma Adán, Andrés Quintanar-Stéphano, Miguel Condés-Lara, Gerardo Rojas-Piloni, Nadine Binart, Gonzalo Martínez de la Escalera, and Carmen Clapp

DEVELOPMENT/PLASTICITY/REPAIR

- 1633 **Nogo Receptor Homolog NgR2 Expressed in Sensory DRG Neurons Controls Epidermal Innervation by Interaction with Versican**
Bastian E. Bäumer, Antje Kurz, Sarah C. Borrie, Stephan Sickinger, Maria T. Dours-Zimmermann, Dieter R. Zimmermann, and Christine E. Bandtlow

- 1672 **Local Pruning of Dendrites and Spines by Caspase-3-Dependent and Proteasome-Limited Mechanisms**
Ali Ertürk, Yuanyuan Wang, and Morgan Sheng
- 1689 **Novel Roles for Osteopontin and Clusterin in Peripheral Motor and Sensory Axon Regeneration**
Megan C. Wright, Ruifa Mi, Emmalynn Connor, Nicole Reed, Alka Vyas, Manula Alspalter, Giovanni Coppola, Daniel H. Geschwind, Thomas M. Brushart, and Ahmet Höke
- 1701 **Trans-Spinal Direct Current Stimulation Alters Muscle Tone in Mice with and without Spinal Cord Injury with Spasticity**
Zaghloul Ahmed
- 1791 **Analysis of Local and Global Topographic Order in Mouse Retinocollicular Maps**
David J. Willshaw, David C. Sterratt, and Adrianna Teriakidis
- 1838 **Combination of Engineered Schwann Cell Grafts to Secrete Neurotrophin and Chondroitinase Promotes Axonal Regeneration and Locomotion after Spinal Cord Injury**
Haruo Kanno, Yelena Pressman, Alison Moody, Randall Berg, Elizabeth M. Muir, John H. Rogers, Hiroshi Ozawa, Eiji Itoi, Damien D. Pearse, and Mary Bartlett Bunge
- 1924 **Dscam1 Is Required for Normal Dendrite Growth and Branching But Not for Dendritic Spacing in *Drosophila* Motoneurons**
Katie M. Hutchinson, Fernando Vonhoff, and Carsten Duch
- 1998 **Responses to Cell Loss Become Restricted as the Supporting Cells in Mammalian Vestibular Organs Grow Thick Junctional Actin Bands That Develop High Stability**
Joseph C. Burns and Jeffrey T. Corwin

SYSTEMS/CIRCUITS

- 1579 **Distributed Effects of Biological Sex Define Sex-Typical Motor Behavior in *Caenorhabditis elegans***
William R. Mowrey, Jessica R. Bennett, and Douglas S. Portman
- 1625 **Large-Scale Axonal Reorganization of Inhibitory Neurons following Retinal Lesions**
Sally A. Marik, Homare Yamahachi, Stephan Meyer zum Alten Borgloh, and Charles D. Gilbert
- 1657 **Performance Monitoring in Monkey Frontal Eye Field**
Tobias Teichert, Dian Yu, and Vincent P. Ferrera
- 1731 **Bidirectional Plasticity of Purkinje Cells Matches Temporal Features of Learning**
Daniel Z. Wetmore, Dan-Anders Jirenhed, Anders Rasmussen, Fredrik Johansson, Mark J. Schnitzer, and Germund Hesslow
- 1760 **Three Distinct Blue-Green Color Pathways in a Mammalian Retina**
Stephen L. Mills, Lian-Ming Tian, Hideo Hoshi, Christopher M. Whitaker, and Stephen C. Massey
- 1879 **Chronic Sleep Restriction Disrupts Sleep Homeostasis and Behavioral Sensitivity to Alcohol by Reducing the Extracellular Accumulation of Adenosine**
Jerome Clasadonte, Sally R. McIver, Luke I. Schmitt, Michael M. Halassa, and Philip G. Haydon
- 1892 **A Spiking Neural Integrator Model of the Adaptive Control of Action by the Medial Prefrontal Cortex**
Trevor Bekolay, Mark Laubach, and Chris Eliasmith

- 1932 **Activity-Dependent Modulation of Layer 1 Inhibitory Neocortical Circuits by Acetylcholine**
Arne Brombas, Lee N. Fletcher, and Stephen R. Williams
- 1970 **Autonomous Encoding of Irrelevant Goals and Outcomes by Prefrontal Cortex Neurons**
Aldo Genovesio, Satoshi Tsujimoto, Giulia Navarra, Rossella Falcone, and Steven P. Wise

BEHAVIORAL/COGNITIVE

- 1570 **M₁-Muscarinic Receptors Promote Fear Memory Consolidation via Phospholipase C and the M-Current**
Matthew B. Young and Steven A. Thomas
- 1592 **Structural Maturation and Brain Activity Predict Future Working Memory Capacity during Childhood Development**
Henrik Ullman, Rita Almeida, and Torkel Klingberg
- 1647 **EMG Activation Patterns Associated with High Frequency, Long-Duration Intracortical Microstimulation of Primary Motor Cortex**
Darcy M. Griffin, Heather M. Hudson, Abderraouf Belhaj-Saïf, and Paul D. Cheney
- 1724 **Intrinsic Fluctuations in Sustained Attention and Distractor Processing**
Michael Esterman, Monica D. Rosenberg, and Sarah K. Noonan
- 1738 **Binocular Rivalry: Frontal Activity Relates to Introspection and Action But Not to Perception**
Stefan Frässle, Jens Sommer, Andreas Jansen, Marnix Naber, and Wolfgang Einhäuser
- 1769 **Rapid Online Selection between Multiple Motor Plans**
Joseph Y. Nashed, Frédéric Crevecoeur, and Stephen H. Scott
- 1781 **Incubation of Cocaine Seeking following Brief Cocaine Experience in Mice Is Enhanced by mGluR1 Blockade**
Briac Halbout, Rick E. Bernardi, Anita C. Hansson, and Rainer Spanagel
- 1806 **Motor Costs and the Coordination of the Two Arms**
Yousef Salimpour and Reza Shadmehr
- 1819 **Differential Associative Training Enhances Olfactory Acuity in *Drosophila melanogaster***
Jonas Barth, Shubham Dipt, Ulrike Pech, Moritz Hermann, Thomas Riemensperger, and André Fiala
- 1949 **Cerebellar Potentiation and Learning a Whisker-Based Object Localization Task with a Time Response Window**
Negah Rahmati, Cullen B. Owens, Laurens W. J. Bosman, Jochen K. Spanke, Sander Lindeman, Wei Gong, Jan-Willem Potters, Vincenzo Romano, Kai Voges, Letizia Moscato, Sebastiaan K. E. Koekkoek, Mario Negrello, and Chris I. De Zeeuw
- 1963 **Selective Adaptation to “Oddball” Sounds by the Human Auditory System**
Andrew J.R. Simpson, Nicol S. Harper, Joshua D. Reiss, and David McAlpine
- 1979 **A Common Cortical Metric for Spatial, Temporal, and Social Distance**
Carolyn Parkinson, Shari Liu, and Thalia Wheatley
- 1988 **Dissociable Memory Traces within the Macaque Medial Temporal Lobe Predict Subsequent Recognition Performance**
Kentaro Miyamoto, Yusuke Adachi, Takahiro Osada, Takamitsu Watanabe, Hiroko M. Kimura, Rieko Setsuie, and Yasushi Miyashita

NEUROBIOLOGY OF DISEASE

- 1856 Pathogenic Mutation of Spastin Has Gain-of-Function Effects on Microtubule Dynamics**
Joanna M. Solowska, Mitchell D'Rozario, Daphney C. Jean, Michael W. Davidson, Daniel R. Marena, and Peter W. Baas
- 1903 Omega-3 Fatty Acids Protect the Brain against Ischemic Injury by Activating Nrf2 and Upregulating Heme Oxygenase 1**
Meijuan Zhang, Suping Wang, Leilei Mao, Rehana K. Leak, Yejie Shi, Wenting Zhang, Xiaoming Hu, Baoliang Sun, Guodong Cao, Yanqin Gao, Yun Xu, Jun Chen, and Feng Zhang
- 1916 Tissue Plasminogen Activator Contributes to Alterations of Neuronal Migration and Activity-Dependent Responses in Fragile X Mice**
V. Swaroop Achuta, Veronika Rezov, Marko Uutela, Verna Louhivuori, Lauri Louhivuori, and Maija L. Castrén
- 2012 Correction:** The article "A Small Molecule TrkB Ligand Reduces Motor Impairment and Neuropathology in R6/2 and BACHD Mouse Models of Huntington's Disease" by Danielle A. Simmons, Nadia P. Belichenko, Tao Yang, Christina Condon, Marie Monbureau, Mehrdad Shamloo, Deqiang Jing, Stephen M. Massa, and Frank M. Longo appeared on pages 18712–18727 of the November 27, 2013 issue. A correction for that article appears on page 2012.
- Correction:** The article "Oral Administration of a Small Molecule Targeted to Block proNGF Binding to p75 Promotes Myelin Sparing and Functional Recovery after Spinal Cord Injury" by Chhavy Tep, Tae Hee Lim, Pyung On Ko, Sami Getahun, Jae Cheon Ryu, Virginia M. Goettl, Stephen M. Massa, Michele Basso, Frank M. Longo, and Sung Ok Yoon appeared on pages 397–410 of the January 9, 2013 issue. A correction for that article appears on page 2012.
- Correction:** The article "A TrkB Small Molecule Partial Agonist Rescues TrkB Phosphorylation Deficits and Improves Respiratory Function in a Mouse Model of Rett Syndrome" by Danielle A. Schmid, Tao Yang, Michael Ogier, Ian Adams, Yatin Mirakhur, Qifang Wang, Stephen M. Massa, Frank M. Longo, and David M. Katz appeared on pages 1803–1810 of the February 1, 2012 issue. A correction for that article appears on page 2012.
- Correction:** The article "Small, Nonpeptide p75NTR Ligands Induce Survival Signaling and Inhibit proNGF-Induced Death" by Stephen M. Massa, Youmei Xie, Tao Yang, Anthony W. Harrington, Mi Lyang Kim, Sung Ok Yoon, Rosemary Kraemer, Laura A. Moore, Barbara L. Hempstead, and Frank M. Longo appeared on pages 5288–5300 of the May 17, 2006 issue. A correction for that article appears on page 2012.

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