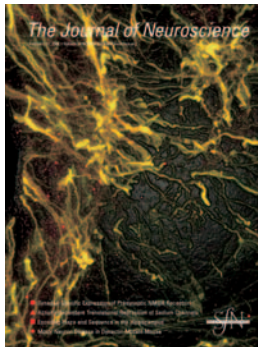


# The Journal of Neuroscience

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**Cover legend:** An artistically stylized high-magnification confocal image of ciliary neurotrophic factor (CNTF)-expressing astrocytes in the subventricular zone of the adult mouse brain. The nigrostriatal pathway regulates adult CNS neurogenesis through D<sub>2</sub> dopamine receptors, and this neurogenesis is mediated entirely by CNTF. Astrocyte GFAP staining is shown in green, and CNTF expression is shown in red. Note the almost exclusive overlap (yellow). See the article by Yang et al. in this issue (pages 2231-2241).

## i This Week in The Journal

### Journal Club

- 1995 **Action-Coding Neurons in Primary Motor Cortex: Making Sense of M1 Activity during Action Perception**  
Jean-François Lepage, Mélissa Lortie, and François Champoux

### Articles

#### CELLULAR/MOLECULAR

- 2015 **Transient Hypoxia Stimulates Mitochondrial Biogenesis in Brain Subcortex by a Neuronal Nitric Oxide Synthase-Dependent Mechanism**  
Diana R. Gutsaeva, Martha Sue Carraway, Hagir B. Suliman, Ivan T. Demchenko, Hiroshi Shitara, Hiromichi Yonekawa, and Claude A. Piantadosi
- 2064 **Modulation of Phosphodiesterase6 Turnoff during Background Illumination in Mouse Rod Photoreceptors**  
Michael L. Woodruff, Kerstin M. Janisch, Igor V. Peshenko, Alexander M. Dizhoor, Stephen H. Tsang, and Gordon L. Fain
- 2110 **Vesicular Glutamate Transporter 3 Is Required for Synaptic Transmission in Zebrafish Hair Cells**  
Nikolaus Obholzer, Sean Wolfson, Josef G. Trapani, Weike Mo, Alex Nechiporuk, Elisabeth Busch-Nentwich, Christoph Seiler, Samuel Sidi, Christian Söllner, Robert N. Duncan, Andrea Boehland, and Teresa Nicolson
- 2199 **Synapse-Specific Expression of Functional Presynaptic NMDA Receptors in Rat Somatosensory Cortex**  
Daniel J. Brasier and Daniel E. Feldman
- 2221 **Mechanisms of Microglia-Mediated Neurotoxicity in a New Model of the Stroke Penumbra**  
Vikas Kaushal and Lyanne C. Schlichter
- 2287 **Release of MICAL Autoinhibition by Semaphorin-Plexin Signaling Promotes Interaction with Collapsin Response Mediator Protein**  
Eric F. Schmidt, Sang-Ohk Shim, and Stephen M. Strittmatter

#### DEVELOPMENT/PLASTICITY/REPAIR

- 2033 **Spinal Adenosine A2a Receptor Activation Elicits Long-Lasting Phrenic Motor Facilitation**  
Francis J. Golder, Lavanya Ranganathan, Irawan Satriotomo, Michael Hoffman, Mary Rachael Lovett-Barr, Jyoti J. Watters, Tracy L. Baker-Herman, and Gordon S. Mitchell

- 2089 **Enhanced Cortico-Amygdala Efficacy and Suppressed Fear in Absence of Rap1**  
Bing-Xing Pan, Francois Vautier, Wataru Ito, Vadim Y. Bolshakov, and Alexei Morozov
- 2099 **Pumilio Binds *para* mRNA and Requires Nanos and Brat to Regulate Sodium Current in *Drosophila* Motoneurons**  
Nara I. Muraro, Andrew J. Weston, Andre P. Gerber, Stefan Luschnig, Kevin G. Moffat, and Richard A. Baines
- 2131 **The Neurotrophic Effects of Glial Cell Line-Derived Neurotrophic Factor on Spinal Motoneurons Are Restricted to Fusimotor Subtypes**  
Thomas W. Gould, Shigenobu Yonemura, Ronald W. Oppenheim, Shiho Ohmori, and Hideki Enomoto
- 2231 **Ciliary Neurotrophic Factor Mediates Dopamine D<sub>2</sub> Receptor-Induced CNS Neurogenesis in Adult Mice**  
Peng Yang, Sheila A. Arnold, Agata Habas, Michal Hetman, and Theo Hagg
- 2261 **Notch Signaling Regulates the Extent of Hair Cell Regeneration in the Zebrafish Lateral Line**  
Eva Y. Ma, Edwin W Rubel, and David W. Raible

#### BEHAVIORAL/SYSTEMS/COGNITIVE

- 2006 **Myelinated Skin Sensory Neurons Project Extensively throughout Adult Mouse Substantia Gelatinosa**  
M. Danilo Boada and C. Jeffery Woodbury
- 2025 **Induction of Activating Transcription Factors (ATFs) ATF2, ATF3, and ATF4 in the Nucleus Accumbens and Their Regulation of Emotional Behavior**  
Thomas A. Green, Imran N. Alibhai, Stephen Unterberg, Rachael L. Neve, Subroto Ghose, Carol A. Tamminga, and Eric J. Nestler
- 2043 **Psychophysical and Physiological Evidence for Fast Binaural Processing**  
Ida Siveke, Stephan D. Ewert, Benedikt Grothe, and Lutz Wiegrebe
- 2158 **7 $\alpha$ -Hydroxypregnenolone Mediates Melatonin Action Underlying Diurnal Locomotor Rhythms**  
Kazuyoshi Tsutsui, Kazuhiko Inoue, Hitomi Miyabara, Saori Suzuki, Yuki Ogura, and Shogo Haraguchi
- 2179 **Selective Impairment of the Cerebellar C1 Module Involved in Rat Hindlimb Control Reduces Step-Dependent Modulation of Cutaneous Reflexes**  
Angelique Pijpers, Beerend H. J. Winkelman, Robert Bronsing, and Tom J. H. Ruigrok
- 2190 **Nociceptin Receptor Impairs Recognition Memory via Interaction with NMDA Receptor-Dependent Mitogen-Activated Protein Kinase/Extracellular Signal-Regulated Kinase Signaling in the Hippocampus**  
Celia Goeldner, David Reiss, Jürgen Wichmann, Hamid Meziane, Brigitte L. Kieffer, and Abdel-Mouttalib Ouagazzal
- 2242 **Neural Activity in the Frontal Eye Fields Modulated by the Number of Alternatives in Target Choice**  
Kyoung-Min Lee and Edward L. Keller
- 2252 **The Cerebellum Predicts the Timing of Perceptual Events**  
Jill X. O'Reilly, M. Marsel Mesulam, and Anna Christina Nobre
- 2274 **Gamma Oscillatory Firing Reveals Distinct Populations of Pyramidal Cells in the CA1 Region of the Hippocampus**  
Timothy J. Senior, John R. Huxter, Kevin Allen, Joseph O'Neill, and Jozsef Csicsvari

## NEUROBIOLOGY OF DISEASE

- 1997 Motor Neuron Disease Occurring in a Mutant Dynactin Mouse Model Is Characterized by Defects in Vesicular Trafficking**  
Fiona M. Laird, Mohamed H. Farah, Steven Ackerley, Ahmet Hoke, Nicholas Maragakis, Jeffrey D. Rothstein, John Griffin, Donald L. Price, Lee J. Martin, and Philip C. Wong
- 2053 A Critical Role for the Potassium-Dependent Sodium-Calcium Exchanger NCKX2 in Protection against Focal Ischemic Brain Damage**  
Ornella Cuomo, Rosaria Gala, Giuseppe Pignataro, Francesca Boscia, Agnese Secondo, Antonella Scorziello, Anna Pannaccione, Davide Viggiano, Annagrazia Adornetto, Pasquale Molinaro, Xiao-Fang Li, Jonathan Lytton, Gianfranco Di Renzo, and Lucio Annunziato
- 2075 Neuron-Specific Expression of Mutant Superoxide Dismutase Is Sufficient to Induce Amyotrophic Lateral Sclerosis in Transgenic Mice**  
Dick Jaarsma, Eva Teuling, Elize D. Haasdijk, Chris I. De Zeeuw, and Casper C. Hoogenraad
- 2119 Rapid Tumor Necrosis Factor  $\alpha$ -Induced Exocytosis of Glutamate Receptor 2-Lacking AMPA Receptors to Extrasynaptic Plasma Membrane Potentiates Excitotoxicity**  
Dmitri Leonoudakis, Pingwei Zhao, and Eric C. Beattie
- 2147 Quantitative and Functional Analyses of Spastin in the Nervous System: Implications for Hereditary Spastic Paraplegia**  
Joanna M. Solowska, Gerardo Morfini, Aditi Falnikar, B. Timothy Himes, Scott T. Brady, Dongyang Huang, and Peter W. Baas
- 2168 Eif-2a Protects Brainstem Motoneurons in a Murine Model of Sleep Apnea**  
Yan Zhu, Polina Fenik, Guanxia Zhan, Ben Sanfillipo-Cohn, Nirinjini Naidoo, and Sigrid C. Veasey
- 2212 Neuroaxonal Dystrophy Caused by Group VIA Phospholipase A<sub>2</sub> Deficiency in Mice: A Model of Human Neurodegenerative Disease**  
Koei Shinzawa, Hisae Sumi, Masahito Ikawa, Yosuke Matsuoka, Masaru Okabe, Saburo Sakoda, and Yoshihide Tsujimoto

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