



Cover legend: Astrocytes (labeled for GFAP, green) surrounding a cerebrovessel (red blood cell nuclei labeled with DAPI and pseudo-colored red) in mouse barrel cortex (formalin fixed). Image acquired using a Zeiss LSM 880 with a 63x objective. Three-dimensional image rendering was performed with Imaris software. For more information, see the article by Sompol et al. (pages 1797–1813). Cover image: Pradoldej Sompol.

1657 This Week in The Journal

Research Articles

CELLULAR/MOLECULAR

1658 Carbogen-Induced Respiratory Acidosis Blocks Experimental Seizures by a Direct and Specific Inhibition of Na_v1.2 Channels in the Axon Initial Segment of Pyramidal Neurons

Robert J. Hatch, Géza Berecki, Nikola Jancovski, Melody Li, Ben Rollo, Paymaan Jafar-Nejad, Frank Rigo, Kai Kaila, Christopher A. Reid, and Steven Petrou

1668 Opioid Withdrawal Abruptly Disrupts Amygdala Circuit Function by Reducing Peptide Actions

Gabrielle C. Gregoriou, Sahil D. Patel, Sebastian Pyne, Bryony L. Winters, and Elena E. Bagley

DEVELOPMENT/PLASTICITY/REPAIR

1682 Loss of Motor Cortical Inputs to the Red Nucleus after CNS Disorders in Nonhuman Primates

Simon Borgognon and Eric M. Rouiller

SYSTEMS/CIRCUITS

1692 Effect of Selective Lesions of Nucleus Accumbens μ -Opioid Receptor-Expressing Cells on Heroin Self-Administration in Male and Female Rats: A Study with Novel *Oprm1-Cre* Knock-in Rats

Jennifer M. Bossert, Carlos A. Mejias-Aponte, Thomas Saunders, Lindsay Altidor, Michael Emery, Ida Fredriksson, Ashley Batista, Sarah M. Claypool, Kiera E. Caldwell, David J. Reiner, Jonathan J. Chow, Matthew Foltz, Vivek Kumar, Audrey Seasholtz, Elizabeth Hughes, Wanda Filipiak, Brandon K. Harvey, Christopher T. Richie, Francois Vautier, Juan L. Gomez, Michael Michaelides, Brigitte L. Kieffer, Stanley J. Watson, Huda Akil, and Yavin Shaham

BEHAVIORAL/COGNITIVE

1714 Nutrient-Sensitive Reinforcement Learning in Monkeys

Fei-Yang Huang (黃飛揚) and Fabian Grabenhorst

1731 Deep Neural Networks and Visuo-Semantic Models Explain Complementary Components of Human Ventral-Stream Representational Dynamics

Kamila M. Jozwik, Tim C. Kietzmann, Radoslaw M. Cichy, Nikolaus Kriegeskorte, and Marieke Mur

- 1742 **Cortical Patterns Shift from Sequence Feature Separation during Planning to Integration during Motor Execution**
Rhys Yewbrey, Myrto Mantziara, and Katja Kornysheva
- 1757 **Modulation of Motor Vigor by Expectation of Reward Probability Trial-by-Trial Is Preserved in Healthy Ageing and Parkinson's Disease Patients**
Margherita Tecilla, Michael Großbach, Giovanni Gentile, Peter Holland, Sebastian Sporn, Angelo Antonini, and Maria Herrojo Ruiz
- 1778 **The Orienting Reflex Reveals Behavioral States Set by Demanding Contexts: Role of the Superior Colliculus**
Ji Zhou, Sebastian Hormigo, Natan Busel, and Manuel A. Castro-Alamancos

NEUROBIOLOGY OF DISEASE

- 1797 **Targeting Astrocyte Signaling Alleviates Cerebrovascular and Synaptic Function Deficits in a Diet-Based Mouse Model of Small Cerebral Vessel Disease**
Pradoldej Sompol, Jenna L. Gollihue, Blaine E. Weiss, Rwei-Lung Lin, Sami L. Case, Susan D. Kraner, Erica M. Weekman, John C. Gant, Colin B. Rogers, Dana M. Niedowicz, Tiffany L. Sudduth, David K. Powell, Ai-Ling Lin, Peter T. Nelson, Olivier Thibault, Donna M. Wilcock, and Christopher M. Norris
- 1814 **Activation of PPAR α Exhibits Therapeutic Efficacy in a Mouse Model of Juvenile Neuronal Ceroid Lipofuscinosis**
Malabendu Jana, Debashis Dutta, Jit Poddar, and Kalipada Pahan
- 1830 **The Amyloid Precursor Protein Modulates the Position and Length of the Axon Initial Segment**
Fulin Ma, Himanshu Akolkar, Jianquan Xu, Yang Liu, Dina Popova, Jiaan Xie, Mark M. Youssef, Ryad Benosman, Ronald P. Hart, and Karl Herrup
- 1845 **Neuronal SIRT3 Deletion Predisposes to Female-Specific Alterations in Cellular Metabolism, Memory, and Network Excitability**
Jennifer N. Pearson-Smith, Ruth Fulton, Christopher Q. Huynh, Anna G. Figueroa, Gia B. Huynh, Li-Ping Liang, Lindsey B. Gano, Cole R. Michel, Nichole Reisdorph, Richard Reisdorph, Kristofer S. Fritz, Eric Verdin, and Manisha Patel

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