



**Cover legend:** Unprocessed pro-Neuregulin 1 (type I) accumulates as discrete puncta on the soma and proximal dendrites of cultured hippocampal neurons at contact sites, known as subsurface cisterns, between the somatic plasma membrane and the ER (white). Note that Neuregulin puncta are absent from axons (initial segments labeled with Ankyrin G, green) and more distal dendrites (labeled with MAP2, magenta). In response to NMDAR activity pro-NRG1 is processed and released. For more information, see the article by Vullhorst, Ahmad et al. (pages 5232–5249).

## i This Week in The Journal

### Journal Club

- 5215 **Valproic Acid for a Treatment of Retinitis Pigmentosa: Reasons for Optimism and Caution**  
Levi Todd and Christopher Zelinka
- 5218 **Revisiting the Contribution of Auditory Cortex to Frequency-Following Responses**  
Emma Holmes and Björn Herrmann

### Research Articles

#### CELLULAR/MOLECULAR

- 5232 **Structural Similarities between Neuregulin 1–3 Isoforms Determine Their Subcellular Distribution and Signaling Mode in Central Neurons**  
Detlef Vullhorst, Tanveer Ahmad, Irina Karavanova, Carolyn Keating, and Andres Buonanno
- 5263 **Sleep Loss Promotes Astrocytic Phagocytosis and Microglial Activation in Mouse Cerebral Cortex**  
Michele Bellesi, Luisa de Vivo, Mattia Chini, Francesca Gilli, Giulio Tononi, and Chiara Cirelli
- 5319 **Variable Action Potential Backpropagation during Tonic Firing and Low-Threshold Spike Bursts in Thalamocortical But Not Thalamic Reticular Nucleus Neurons**  
William M. Connelly, Vincenzo Crunelli, and Adam C. Errington

#### DEVELOPMENT/PLASTICITY/REPAIR

- 5221 **Allometric Analysis Detects Brain Size-Independent Effects of Sex and Sex Chromosome Complement on Human Cerebellar Organization**  
Catherine Mankiw, Min Tae M. Park, P.K. Reardon, Ari M. Fish, Liv S. Clasen, Deanna Greenstein, Jay N. Giedd, Jonathan D. Blumenthal, Jason P. Lerch, M. Mallar Chakravarty, and Armin Raznahan

#### SYSTEMS/CIRCUITS

- 5250 **Intracellular, *In Vivo*, Dynamics of Thalamocortical Synapses in Visual Cortex**  
Madineh Sedigh-Sarvestani, Leif Vigeland, Ivan Fernandez-Lamo, M. Morgan Taylor, Larry A. Palmer, and Diego Contreras

- 5378 **Feature-Selective Attention Adaptively Shifts Noise Correlations in Primary Auditory Cortex**  
Joshua D. Downer, Brittany Rapone, Jessica Verhein, Kevin N. O'Connor, and Mitchell L. Sutter

#### BEHAVIORAL/COGNITIVE

- 5274 **Being First Matters: Topographical Representational Similarity Analysis of ERP Signals Reveals Separate Networks for Audiovisual Temporal Binding Depending on the Leading Sense**  
Roberto Cecere, Joachim Gross, Ashleigh Willis, and Gregor Thut
- 5288 **Privileged Functional Connectivity between the Visual Word Form Area and the Language System**  
W. Dale Stevens, Dwight J. Kravitz, Cynthia S. Peng, Michael Henry Tessler, and Alex Martin
- 5298 **Modulation of Illusory Reversal in Tactile Temporal Order by the Phase of Posterior  $\alpha$  Rhythm**  
Toshimitsu Takahashi and Shigeru Kitazawa
- 5334 **Spatial Attention, Motor Intention, and Bayesian Cue Predictability in the Human Brain**  
Anna B. Kuhns, Pascasie L. Dombert, Paola Mengotti, Gereon R. Fink, and Simone Vossel
- 5366 **Nicotinic  $\alpha 4\beta 2$  Cholinergic Receptor Influences on Dorsolateral Prefrontal Cortical Neuronal Firing during a Working Memory Task**  
Yongan Sun, Yang Yang, Veronica C. Galvin, Shengtao Yang, Amy F. Arnsten, and Min Wang

#### NEUROBIOLOGY OF DISEASE

- 5309 **Decreased Motor Neuron Support by SMA Astrocytes due to Diminished MCP1 Secretion**  
Jasmin E. Martin, Trang Kimberly T. Nguyen, Christopher Grunseich, Jonathan H. Nofziger, Philip R. Lee, Douglas Fields, Kenneth H. Fischbeck, and Emily Foran
- 5345 **APLP1 Is a Synaptic Cell Adhesion Molecule, Supporting Maintenance of Dendritic Spines and Basal Synaptic Transmission**  
Sandra Schilling, Annika Mehr, Susann Ludewig, Jonathan Stephan, Marius Zimmermann, Alexander August, Paul Strecker, Martin Korte, Edward H. Koo, Ulrike C. Müller, Stefan Kins, and Simone Eggert

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