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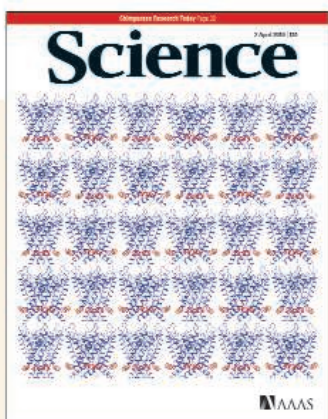


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COVER

An array of alternating open and closed potassium channel pores. A Research Article on page 67 describes a mechanism by which cell membrane voltage, through the action of protein voltage sensors, controls ion channel opening and closing to produce electrical impulses in the nervous system.

Credit: *Xiao Tao, Rockefeller University*

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- 94 Partitioning of Histone H3-H4 Tetramers During DNA Replication-Dependent Chromatin Assembly

M. Xu et al.

Inheritance of histones H3 and H4 implies that epigenetic marks are copied between nucleosomes.

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T. L. Religa et al.

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S. G. Hansen et al.

Cytomegalovirus monkeys can reinfect an already-infected host by evading the CD8⁺ T cell-mediated immune response.

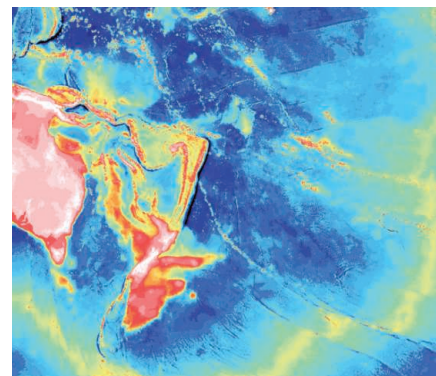
>> *Perspective p. 51; Science Podcast*

- 106 Synchrony of Thalamocortical Inputs Maximizes Cortical Reliability

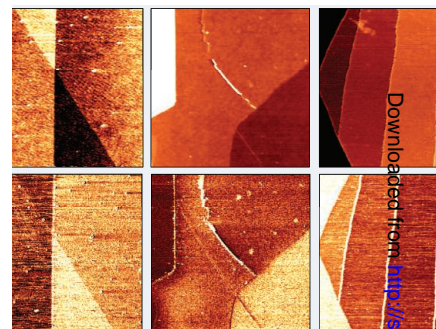
H.-P. Wang et al.

Synchronous synaptic inputs from a very small number of thalamic neurons can be strong enough to activate cortical neurons.

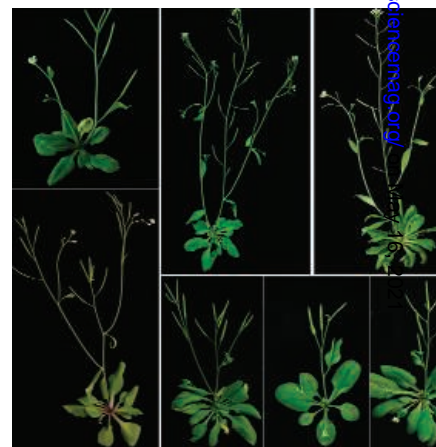
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Fermi Gamma-Ray Imaging of a Radio Galaxy
The Fermi-LAT Collaboration

Gamma rays from a radio galaxy are relic cosmic microwave background radiation that underwent inverse Compton scattering.
10.1126/science.1184656

Onset of Convective Rainfall During Gradual Late Miocene Rise of the Central Andes

C. J. Poulsen et al.

Increased precipitation, rather than rapid uplift, drove isotopic changes in soil carbonates of the Andes in the late Miocene.
10.1126/science.1185078

Systematic Analysis of Human Protein Complexes Identifies Chromosome Segregation Proteins

J. R. A. Hutchins et al.

A strategy designed to decipher the function of proteins identified in RNA interference screens reveals new insights into mitosis.
10.1126/science.1181348

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Highlights From Our Daily News Coverage

Murder or an Accident? The Brain Knows

Researchers finger region of the brain that helps us evaluate the intentions of others.

Toward Liquid-Cooled Computers

Superwicking technique improves cooling efficiency of silicon chips.

Engineers Create First Motion-Powered Nanodevice

Devices could power new generation of tiny electronics.

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RESEARCH ARTICLE: Differential Redox Regulation of ORAI Ion Channels—A Mechanism to Tune Cellular Calcium Signaling

I. Bogeski et al.

Redox sensitivity of T cells decreases through ORAI Ca²⁺ channel subunit switching during T cell differentiation.

RESEARCH ARTICLE: New Roles for the LKB1-NUAK Pathway in Controlling Myosin Phosphatase Complexes and Cell Adhesion

A. Zagórska et al.

PODCAST

D. R. Alessi and A. M. VanHook

The tumor suppressor LKB1 not only keeps cell proliferation in check but also modulates cell adhesion.

PERSPECTIVE: GPCR Dimers Fall Apart

N. A. Lambert

Oligomers of G protein-coupled receptors may be less stable than previously suspected.

REVIEW: The Role of the Kinases RIP1 and RIP3 in TNF-Induced Necrosis

P. Vandenabeele et al.

Programmed necrosis in response to TNF requires the activity of two serine-threonine kinases.

SCIENCE CAREERS

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SPECIAL FEATURE: TECHNOLOGIES ASSISTING SCIENTISTS AND ENGINEERS

Assistive Technologies Enable Discovery

S. Carpenter

Like a microscope, assistive technologies allow scientists and engineers to extend their capabilities.

Profiles in Technological Adaptation

S. Carpenter

With assists from technology, these scientists and engineers are getting their work done.

Taken for Granted: Trying to Account for Tastes

B. L. Bendersly

Research finds that scientists' career preferences are far wider than stereotypes suggest.

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PERSPECTIVE: Toward an Oligonucleotide Therapy for Duchenne Muscular Dystrophy—A Complex Development Challenge

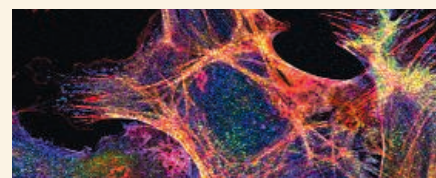
M. J. A. Wood

By correcting the reading frame in mutant DMD genes, antisense oligonucleotides can restore the production of missing dystrophin protein.

COMMENTARY: Complexity in Common Diseases—Big Biology for All

J. R. Lamb and N. Gibson

Discovery of diagnostic tools and treatments for common human diseases requires integrating research in academic and industrial institutions.



SCIENCE SIGNALING

Controlling cell adhesion.

RESEARCH ARTICLE: Plasmacytoid Dendritic Cells Delineate Immunogenicity of Influenza Vaccine Subtypes

S. Koyama et al.

Rare, circulating dendritic cells differentially shape the immunogenicity mechanisms for protection against H1N1 influenza.

RESEARCH ARTICLE: Microfluidic Isolation and Molecular Characterization of Circulating Tumor Cells from Patients with Localized and Metastatic Prostate Cancer

S. Stott et al.

Automated imaging of prostate-specific cancer cells from the blood provides a measure of circulating tumor cell half-life after tumor resection.

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