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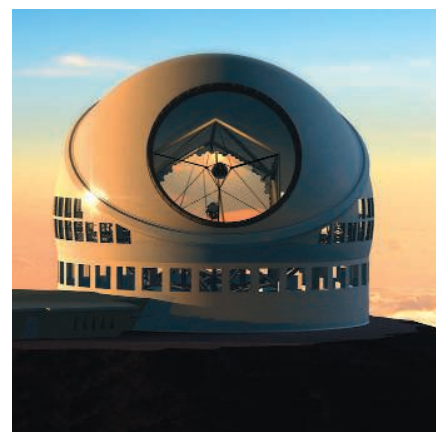
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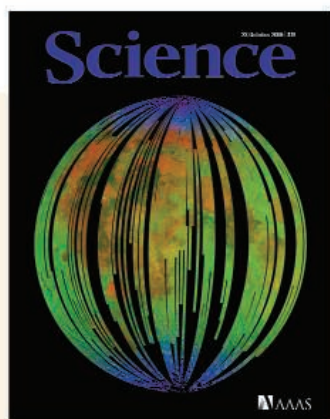
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COVER

A three-color mosaic derived from the Moon Mineralogy Mapper (M^3) near-infrared spectrometer. Orange and pink colors illustrate the distribution of iron-bearing minerals. Green represents the surface brightness at 2.4 micrometers. Blue indicates the presence of small amounts of surficial OH and H_2O that are most prominent at these viewing geometries at cooler, higher latitudes. See page 568.

Image: NASA/ISRO/Brown University/R. N. Clark, USGS

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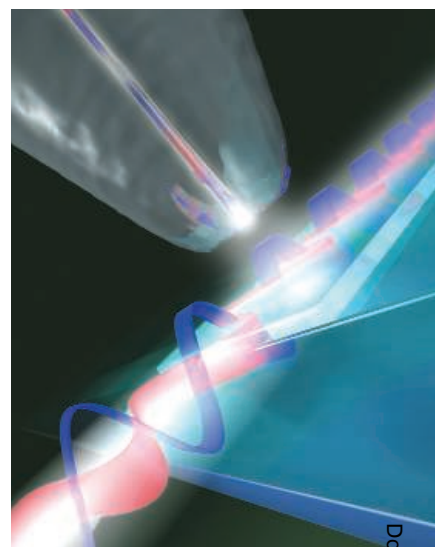
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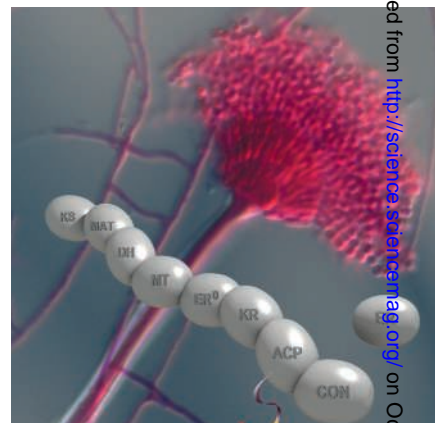
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- 544 **RNAi in Budding Yeast**
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- 556 **Isolation of a C5-Deprotonated Imidazolium, a Crystalline "Abnormal" N-Heterocyclic Carbene**
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A stable cyclic molecule has been prepared with an unusually positioned divalent carbon.
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- 559 **Carbenes As Catalysts for Transformations of Organometallic Iron Complexes**
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- 568 **Character and Spatial Distribution of OH/H₂O on the Surface of the Moon Seen by M³ on Chandrayaan-1**
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- 585 **Detection of an Infectious Retrovirus, XMRV, in Blood Cells of Patients with Chronic Fatigue Syndrome**
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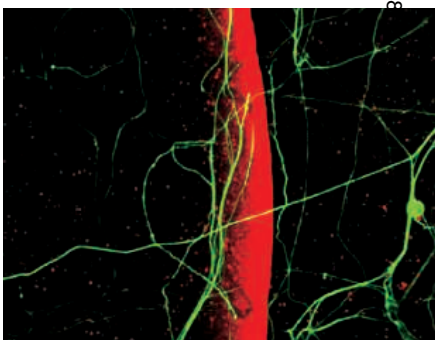
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The plant hormone responsible for drought tolerance signals by inducing conformational changes in its dimeric protein receptor.
10.1126/science.1181829

Altered Heterochromatin Binding by a Hybrid Sterility Protein in *Drosophila* Sibling Species

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A male sterility protein localizes to evolutionarily dynamic loci within heterochromatin and leads to their decondensation.
10.1126/science.1181756

Planarian Hh Signaling Regulates Regeneration Polarity and Links Hh Pathway Evolution to Cilia

J. C. Rink et al.

Analysis of the Hedgehog signaling pathway in planaria suggests an ancestral association of this signaling pathway and cilia function.
10.1126/science.1178712

Indirect Emissions from Biofuels: How Important?

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Land use changes associated with biofuel production are predicted to increase greenhouse gas emissions.
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Nanoplasmonic Probes of Catalytic Reactions

E. M. Larsson et al.

Reactant concentrations can be measured as plasmon frequency shifts for model catalysts grown on nanoscale gold disks.
10.1126/science.1176593

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Multiple approaches are needed to understand brain biology and pathology.

RESEARCH ARTICLE: A Noisy Paracrine Signal Determines the Cellular NF- κ B Response to Lipopolysaccharide

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A low concentration paracrine TNF- α signal contributes to the variability in NF- κ B activation dynamics in the response to lipopolysaccharide.

RESEARCH ARTICLE: Two Mechanistically and Temporally Distinct NF- κ B Activation Pathways in IL-1 Signaling

K. Yamazaki et al.

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Neurons lacking the calcium sensor STIM2 are protected from hypoxia-induced cell death.

PERSPECTIVE: Emerging Miniaturized Proteomic Technologies to Study Cell Signaling in Clinical Samples

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PERSPECTIVE: Schizophrenia—The “BLOC” May Be in the Endosomes

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Genetic polymorphisms that affect processes regulated by or participating in endosomal trafficking may increase susceptibility to schizophrenia.

REVIEW: G Protein–Coupled Receptors, Cholinergic Dysfunction, and A β Toxicity in Alzheimer’s Disease

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β -amyloid may induce neurodegeneration by affecting G protein–coupled receptor signaling.

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Clinical information from the doctor’s office should be harnessed to inform health care decisions.

PERSPECTIVE: Computational Genetic Mapping in Mice—The Ship Has Sailed

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Computational mapping can be used for discovery and repurposing of existing drugs.

RESEARCH ARTICLE: Radioprotection in Normal Tissue and Delayed Tumor Growth by Blockade of CD47 Signaling

J. Maxhimer et al.

Inhibition of a membrane receptor protects normal tissue from radiation injury and delays tumor growth.

RESEARCH ARTICLE: Slow Elimination of Multidrug-Resistant Tuberculosis

C. Dye and B. G. Williams

The spread of drug-resistant TB can be reversed through better treatment and diagnosis.

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