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Ocean Iron Fertilization—Moving Forward in a
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Identify the Host Proteins Required for HIV Infection
Through a Functional Genomic Screen
A. L. Brass et al.

An RNAi screen identified 237 new and 38 known human proteins required for HIV infection, including ones used in Golgi transport and in viral integration and transcription. [News story p. 143] 10.1126/science.1152725

Widespread Genetic Incompatibility in C. elegans
Maintained by Balancing Selection
H. S. Seidel, M. V. Rockman, L. Kruglyak

Strong natural selection is maintaining multiple alleles of a gene in wild populations of the nematode C. elegans, despite their negative effect on fitness. 10.1126/science.1151107

Comment on “The Southern Ocean Biological Response to Aeolian Iron Deposition”
P. W. Boyd and D. Mackie

Response to Comment on “The Southern Ocean Biological Response to Aeolian Iron Deposition”
N. Cassar et al.

A large Alaskan earthquake triggered tremors along the San Andreas and other strike-slip faults in California, showing that this process is not specific to subduction zones. [Perspective p. 166; Report p. 186] 10.1126/science.1152697

Simulations show that stellar winds and material expelled from supernovae alter the gravitational potential of dwarf galaxies, perhaps explaining their dark matter cores.

The response of CeCoIn$_5$ differs from that of other superconductors and from accepted theory because its superconducting state approaches a quantum critical point.

Large DNA scaffolds with multiple pairs of single-strand overhangs can capture specific RNA molecules for subsequent label-free detection by atomic force microscopy.
BIOCHEMISTRY

Designed Protein-Protein Association

D. Grueninger et al.

A few changes in the side chains of amino acids at the contact interfaces of natural enzymes may suffice to induce higher-order oligomers.  >> Perspective p. 165

CELL BIOLOGY

Membrane Phosphatidylserine Regulates Surface Charge and Protein Localization


A fluorescent tag specific for a negatively charged lipid shows that its higher concentration in endosomes and lysosomes attracts cationic proteins within the cell.

PSYCHOLOGY

The Limits of Counting: Numerical Cognition Between Evolution and Culture

S. Beller and A. Bender

Several Pacific-island languages with few words for numbers may be derived from more sophisticated and abstract counting systems rather than being their precursors.

IMMUNOLOGY

Recognition of a Ubiquitous Self Antigen by Prostate Cancer–Infiltrating CD8+ T Lymphocytes

P. A. Savage et al.

In mice, a common histone protein that coats DNA is unexpectedly detected within prostate tumors by the immune system, suggesting a potential therapeutic approach.  >> Perspective p. 163

MEDICINE

Endothelial Progenitor Cells Control the Angiogenic Switch in Mouse Lung Metastasis

D. Gao et al.

Experiments in mice show that certain bone marrow cells promote the development of lung cancers by helping blood vessels form within the tumors.  >> Perspective p. 163

IMMUNOLOGY

Dendritic Cell–Induced Memory T Cell Activation in Nonlymphoid Tissues

L. M. Wakim et al.

Immune cells, normally produced in lymphoid organs, can also be activated in the nervous system in response to a viral challenge.

MOLECULAR BIOLOGY

DNA Oxidation as Triggered by H3K9me2

Demethylation Drives Estrogen-Induced Gene Expression

B. Perillo et al.

Estrogens trigger histone demethylation, which elicits a local DNA oxidative burst that guides initial assembly of the transcription/repair complex.
NOTCH-DEPENDENT ACTIVATION OF R-RAS REVERSES H-RAS–MEDIATED SUPPRESSION OF INTEGRIN ACTIVITY.

PERSPECTIVE: Notch and Integrin Affinity—A Sticky Situation
A. Karsan
Notch-dependent activation of R-Ras reverses H-Ras–mediated suppression of integrin activity.

PERSPECTIVE: An Emerging Picture of Synapse Formation—A Balance of Two Opposing Pathways
F. Ono
A dispersing and a clustering pathway for acetylcholine receptors converge on the postsynaptic protein rapsyn in skeletal muscle.

SEPARATE INDIVIDUAL OR INSTITUTIONAL SUBSCRIPTIONS TO THESE PRODUCTS MAY BE REQUIRED FOR FULL-TEXT ACCESS.