COVER

Electron micrograph of *Mycoplasma mycoides* JCVI-syn1.0 cells (magnification ~25,000×). These cells were produced following transplantation of a 1.08-Mb synthetic *M. mycoides* genome into *M. capricolum* recipient cells. The cells are controlled by the synthetic genome, exhibit the expected phenotypic properties, and are capable of self-replication, thus providing proof of principle for the production of cells from digitized sequence information. See page 52.

*Photo: Thomas Deerinck and Mark Ellisman, National Center for Microscopy and Imaging Research, University of California at San Diego*

CONTENTS continued >>
REVIEW

47 The Unconscious Will: How the Pursuit of Goals Operates Outside of Conscious Awareness
R. Custers and H. Aarts

BREVIA

51 Graphite in an Apollo 17 Impact Melt Breccia
A. Steele et al.
Ancient carbonaceous material possibly delivered during meteorite bombardment has been found in lunar rock.

RESEARCH ARTICLE

52 Creation of a Bacterial Cell Controlled by a Chemically Synthesized Genome
D. G. Gibson et al.
A synthetic Mycoplasma mycoides genome transplanted into M. capricolum was able to control the host cell.

REPORTS

57 A Giant Planet Imaged in the Disk of the Young Star τ Pictoris
A.-M. Lagrange et al.
The Very Large Telescope reveals that a huge planet formed within a star’s dusty disk in a few million years.

59 Controlled Injection of Spin-Triplet Supercurrents into a Strong Ferromagnet
J. W. A. Robinson et al.
Unusual magnetic ordering in a rare earth metal is used to create superconducting currents with aligned spins.

61 Quantized Anomalous Hall Effect in Magnetic Topological Insulators
R. Yu et al.
Magnetically doped topological insulators are predicted to be ferromagnetic and exhibit the quantum anomalous Hall effect.

65 Does the Hydrated Electron Occupy a Cavity?
R. E. Larsen et al.
A long-standing model of the solvent geometry surrounding a free charge in water is questioned by new numerical simulations.

Experimental Results for H2 Formation from H+ and H and Implications for First Star Formation
H. Kreckel et al.
Precise measurements of molecular hydrogen formation rates help improve models of star assembly in the early universe.

Genetic Evidence for High-Altitude Adaptation in Tibet
T. S. Simonson et al.
A candidate gene approach reveals genes under selection in humans living at high altitudes.

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X. Yi et al.
Sequencing coding regions identified genetic changes that were likely involved in adaptation to hypoxia.

Genome-Wide Reprogramming in the Mouse Germ Line Entails the Base Excision Repair Pathway
P. Hajkova et al.
Removing epigenetic marks early in mammalian development involves a DNA damage repair pathway.

Increased Mutagenesis and Unique Mutation Signature Associated with Mitotic Gene Conversion
W. M. Hicks et al.
Repair of double-strand breaks in the genome is accompanied by highly elevated levels of mutagenesis.

Reprogramming of T Cells to Natural Killer–Like Cells upon Bcl11b Deletion
P. Li et al.

An Early T Cell Lineage Commitment Checkpoint Dependent on the Transcription Factor Bcl11b
L. Li et al.
An Essential Developmental Checkpoint for Production of the T Cell Lineage
T. Ikawa et al.
A transcription factor is essential for maintenance of T cell identity.

CONTENTS continued >>
Peripheral Protein Quality Control Removes Unfolded CFTR from the Plasma Membrane
T. Okiyama et al.
Cells clear misfolded and damaged proteins from the cell surface, sometimes frustrating attempts to treat protein-folding diseases.
10.1126/science.1191542

Genetic Signatures of Exceptional Longevity in Humans
P. Sebastiani et al.
Centenarians have genetic signatures that distinguish them from random individuals but are themselves genetically diverse.
10.1126/science.1190532
>> Science Podcast

Muscle Dysfunction Caused by a \( K_{\text{ATP}} \) Channel Mutation in Neonatal Diabetes
Is Neuronal in Origin
R. H. Clark et al.
Identification of the origin of muscle weakness that accompanies a form of neonatal diabetes may lead to safer therapies.
10.1126/science.1186146

Functional Modules and Structural Basis of Conformational Coupling in Mitochondrial Complex I
C. Hunte et al.
A long helix transduces conformational energy to the proton-pumping elements in complex I.
10.1126/science.1191046

Ultrahigh Porosity in Metal-Organic Frameworks
H. Furukawa et al.
The large surface areas of these materials would correspond to that of dispersed nanocubes just 3 to 6 nanometers wide.
10.1126/science.1192160

Single-Shot Readout of a Single Nuclear Spin
P. Neumann et al.
The quantum state of a single nitrogen vacancy in diamond can be read out nondestructively in a single-shot measurement.
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“Fossil” genes from the Ebola family of viruses found in a wide range of mammals reveal pathogens’ ancient origins.

Commentary: Offering Individual Genetic Research Results—Context Matters
L. M. Berkow and W. Burke
A “one size fits all” threshold cannot be developed for decisions about return of individual results.

Research Article: Genomic Architecture Charactizes Tumor Progression Paths and Fate in Breast Cancer Patients
H. G. Russnes et al.
An objective score of structural alterations in tumor chromosomes gives prognostic information about breast cancer.

Research Article: Serotonergic Neurons Mediate Dyskinesia Side Effects in Parkinson’s Patients with Neural Transplants
M. Politis et al.
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Podcast
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N. R. Gough and W. Wong
With the wealth of data in genomics and proteomics, scientists can begin to investigate how signaling systems evolved.

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Research Article: Origins and Diversification of a Complex Signal Transduction System in Prokaryotes
K. Wuichet and I. B. Zhulin

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