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Ardipithecus ramidus

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COVER

Partial skeleton of *Ardipithecus ramidus*, a hominid species living about 4.4 million years ago in Ethiopia. This female stood about 1.2 meters high. Eleven papers from an international team of authors published in print and online in this special issue describe the anatomy of this species and its habitat and discuss the implications for understanding human evolution. One result is that extant great apes are poor models for our last common ancestor with chimpanzees. See page 60 for an introduction.

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- 120 Chiral Organic Ion Pair Catalysts Assembled Through a Hydrogen-Bonding Network
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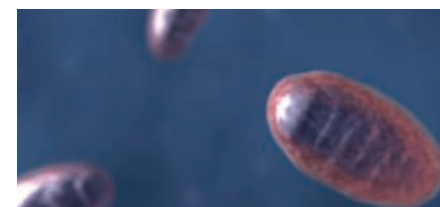
Genome-wide mapping reveals the molecular basis of phenotypic variation in resistance to *Plasmodium* in mosquitoes.

- 150 Coat Variation in the Domestic Dog Is Governed by Variants in Three Genes
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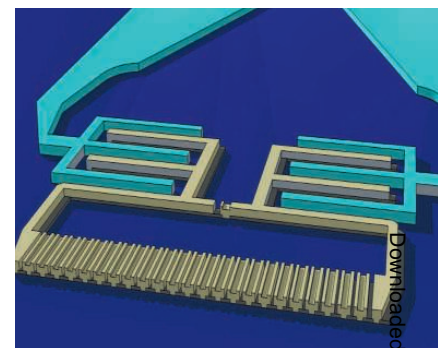
Huge variations in the coats of purebred dogs can be explained by the combinatorial effects of only three genes.

- 153 JAK-STAT Signal Inhibition Regulates Competition in the *Drosophila* Testis Stem Cell Niche
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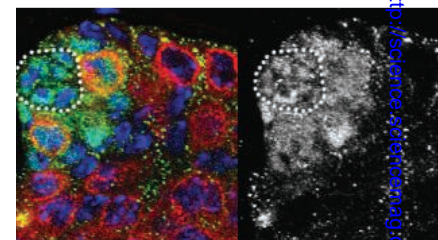
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A color phenotype that is advantageous to females is linked to a sex-determining gene locus in cichlids.
10.1126/science.1174705

CD4⁺ Regulatory T Cells Control T_H17 Responses in a Stat3-Dependent Manner
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Suppressor T cells regulate different classes of immune responses through induction of specific transcription factors.
10.1126/science.1172702

Two Chemoreceptors Mediate Developmental Effects of Dauer Pheromone in *C. elegans*
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Chemical signals that determine alternative nematode developmental programs act via two G protein-coupled receptors.
10.1126/science.1176331

Probing the Magnetic Field of Light at Optical Frequencies
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A split-ring resonator coupled to a scanning probe is used to measure the weak magnetic component of light.
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A Population of Compact Elliptical Galaxies Detected with the Virtual Observatory
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A sample of elliptical systems provides evidence that disruption of galaxies plays an important role in their evolution.
10.1126/science.1175930

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A study of ancient proteins shows that evolution doesn't go in reverse.

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EDITORIAL GUIDE: Focus Issue: The Long and Short of Redox Signaling

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Reactive oxygen species mediate local and long-distance signals.

RESEARCH ARTICLE: *Leishmania* GP63 Alters Host Signaling Through Cleavage-Activated Protein Tyrosine Phosphatases

M. A. Gomez et al.

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RESEARCH ARTICLE: Hippo Pathway-Dependent and -Independent Roles of RASSF6

M. Ikeda et al.

RASSF6 is both an inhibitor and a promoter of apoptosis, and its proapoptotic activity is regulated by the mammalian kinase MST2, a Hippo homolog.

PERSPECTIVE: Sending ROS on a Bullet Train
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PERSPECTIVE: STAT3 Revs Up the Powerhouse
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REVIEW: Transduction of Redox Signaling by Electrophile-Protein Reactions

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Destigmatizing Depression

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Traditional PI-centered research cannot solve the big problems, a lab leader asserts.

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Responding to redox signals.



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Owning up to depression.

SPECIAL FEATURE: *Ardipithecus ramidus*

The entire contents of this week's special section, online—plus special video and podcast features. Find it all at www.sciencemag.org/ardipithecus/.

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A History of Beginnings

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