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Science



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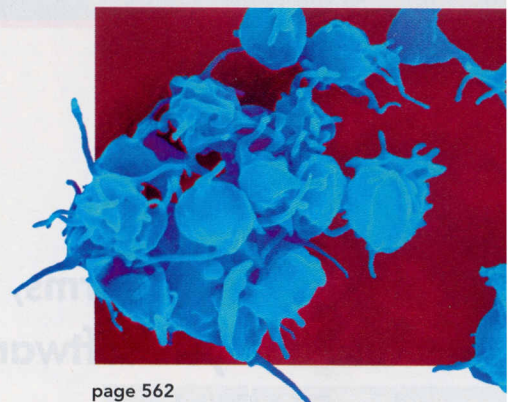
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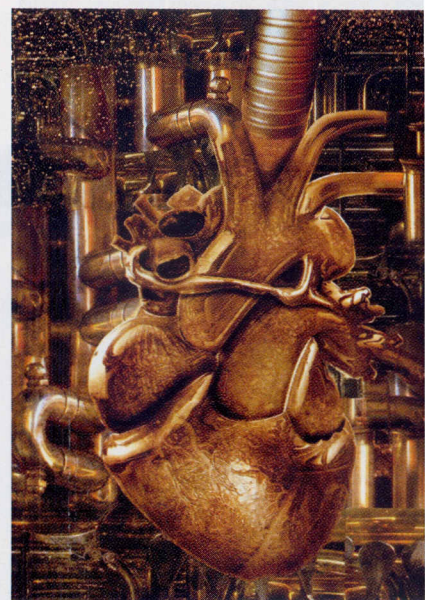
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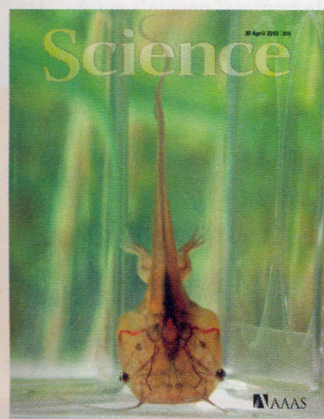
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COVER

A late-stage *Xenopus tropicalis* (western clawed frog) tadpole, about 5 centimeters in length, with emerging hindlimbs. Through the skin of the head, the optic, trigeminal, and olfactory nerves, as well as the paired thymus and large blood vessels, are visible. A Report on page 633 describes the genome of this organism, which is an important model for vertebrate development.

Photo: Siwei Zhang, Jingjing Li, Enrique Amaya

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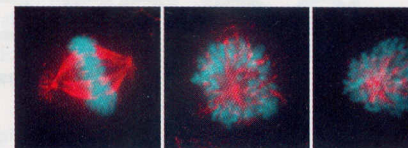
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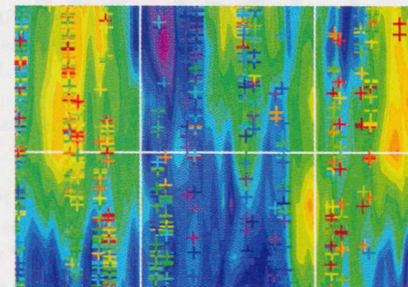
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Global Biodiversity: Indicators of Recent Declines

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An analysis of 30 indicators shows that the Convention on Biological Diversity's 2010 reduction targets have not been met.
10.1126/science.1187512

Endosomal Chloride-Proton Exchange Rather Than Chloride Conductance Is Crucial for Renal Endocytosis

G. Novarino et al.

10.1126/science.1188070

Lysosomal Pathology and Osteopetrosis upon Loss of H⁺-Driven Lysosomal Cl⁻ Accumulation

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Chloride conductance and chloride-proton exchange on endolysosomal physiology are compared in two mouse models.
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Self-Assembled M₂₄L₄₈ Polyhedra and Their Sharp Structural Switch upon Subtle Ligand Variation

Q.-F. Sun et al.

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Freshwater Outburst from Lake Superior as a Trigger for the Cold Event 9300 Years Ago

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The trigger for the dramatic North Atlantic cooling event 9300 years ago was an outburst flood from Lake Superior.
10.1126/science.1187860

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Highlights From Our Daily News Coverage

Chimps Grieve Over Dead Relatives

Two studies document an almost humanlike response to death.

Dark Matter Halos Look a Bit Like a Football

Clumps of the mysterious substance reveal surprisingly similar shapes.

Elephants Have an Alarm Call for Bees

Study suggests that pachyderms tailor vocal warnings to specific foes.

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RESEARCH ARTICLE: Ammonia Derived from Glutaminolysis Is a Diffusible Regulator of Autophagy

C. H. Eng et al.

A volatile metabolic by-product can promote cell survival through the induction of autophagy.

RESEARCH ARTICLE: SUMOylation of the Transcriptional Co-Repressor KAP1 Is Regulated by the Serine and Threonine Phosphatase PP1

X. Li et al.

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RESEARCH ARTICLE: Evolution of CASK into a Mg²⁺-Sensitive Kinase

K. Mukherjee et al.

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EDITORIAL GUIDE: Teaching Tools and Learning Opportunities

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JOURNAL CLUB: Costimulatory Role of CXCR4 with Pre-TCR and Its Crosstalk with PI3K in β -Selection of Thymocytes

J. A. Ahamed and P. Madhivadani

Chemokine and pre-TCR signaling cooperate in β -selection of thymocytes and promote their subsequent proliferation.

JOURNAL CLUB: New Regulator for Energy Signaling Pathway in Plants Highlights Conservation Among Species

A. K. Meyer et al.

The kinase CIPK links plant pathways involved in oxygen-sensing and carbohydrate metabolism.

TEACHING RESOURCES: Animations of Canonical Signaling Pathways

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Four pairs of animations provide tools for introducing core signaling pathways and a way for students to test their knowledge.

SCIENCE CAREERS

www.sciencereers.org/career_magazine

Free Career Resources for Scientists

Mind Matters: Back to Work After Baby, Part 2

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New mothers can minimize stress and maximize productivity by adapting to their circumstances.

Navigating Historic Changes

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A sense of humor, hard work, and daring helped microbiologist Ingrid Grummt achieve success.

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COMMENTARY: Six Questions About Translational Due Diligence

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To maintain public support, the translational research enterprise must do more than provide results.

RESEARCH ARTICLE: Cystic Fibrosis Pigs Develop Lung Disease and Exhibit Defective Bacterial Eradication at Birth

D. A. Stoltz et al.

PERSPECTIVE: The Development of Lung Disease in Cystic Fibrosis Pigs

J. J. Wine

The lungs of piglets with CF fail to efficiently eliminate bacteria, suggesting that lung problems in CF patients may be secondary to impaired antibacterial defense.

RESEARCH ARTICLE: Wnt Proteins Promote Bone Regeneration

S. Minear et al.

A liposome-encased ligand for the Wnt signaling pathway can accelerate bone regeneration after injury.

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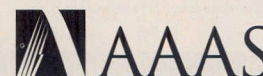
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