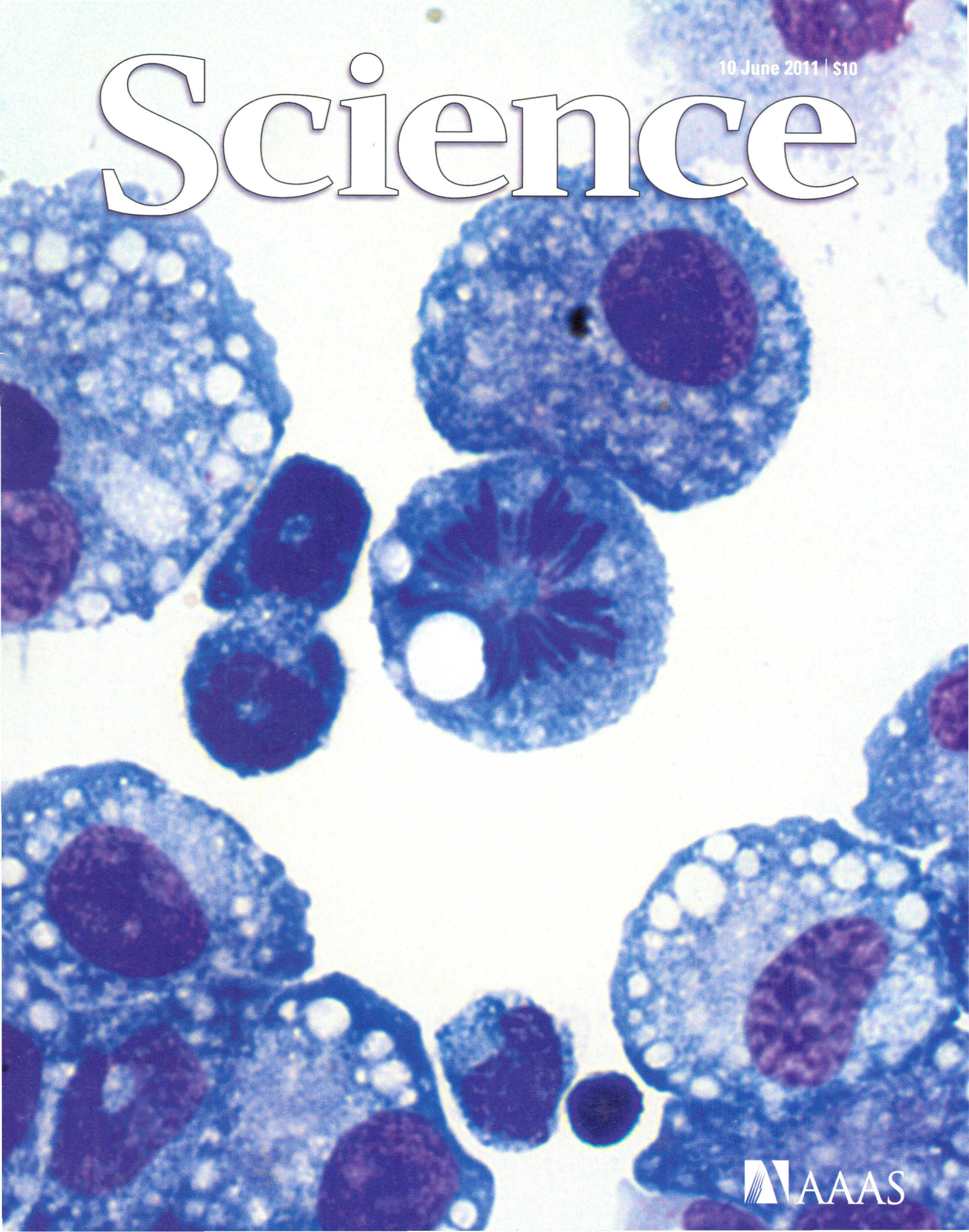




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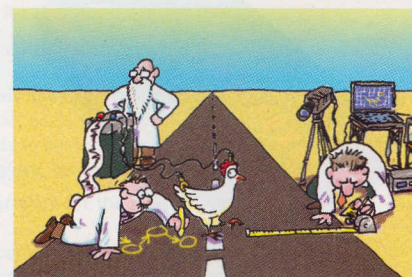
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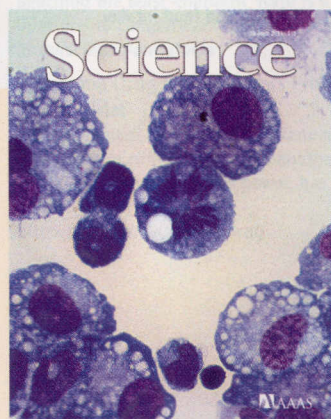
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COVER

Bright-field light microscopy image of peritoneal cells, including a macrophage undergoing cell division (center cell, ~20 micrometers across), taken from mice treated with the cytokine interleukin-4. On page 1284, Jenkins *et al.* describe a mechanism of inflammation in response to parasitic nematode infection whereby macrophages expand in number through cell division rather than by recruitment from the blood.

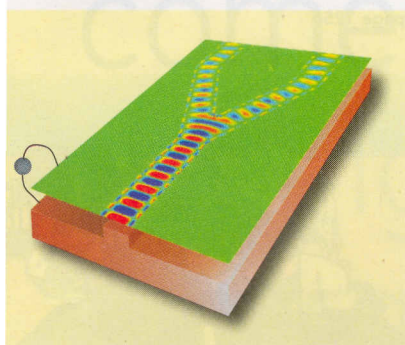
Photo: Stephen Jenkins, University of Edinburgh, UK

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The Unusual Nature of Recent Snowpack Declines in the North American Cordillera

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The snowpack covering the mountains of western North America has decreased dramatically during the past 50 years.

10.1126/science.1201570

School-Based Early Childhood Education and Age-28 Well-Being: Effects by Timing, Dosage, and Subgroups

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A little bit of preschool goes a long way.

10.1126/science.1203618

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Natively unfolded linkers facilitate nuclear membrane protein import.

10.1126/science.1205741

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10.1126/science.1202422

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Phenol derivatives are prepared from nonaromatic ring compounds that can bear a wide variety of substituents.

10.1126/science.1204183

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Reaching the least-energetic state is a milestone in efforts to compare antimatter and matter.

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A widely hailed new drug for melanoma, which was tested in combination with another drug to boost its tumor-fighting power, has done well in a key safety trial.

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7 June issue: <http://scim.ag/ss060711>

RESEARCH ARTICLE: TWIK-1 Two-Pore Domain Potassium Channels Change Ion Selectivity and Conduct Inward Leak Sodium Currents in Hypokalemia

L. Ma et al.

Very low extracellular K⁺ concentrations, which can trigger cardiac arrhythmias, cause TWIK-1 potassium channels to become permeable to Na⁺.

RESEARCH ARTICLE: The cis-Regulatory Logic of Hedgehog Gradient Responses—Key Roles for Gli Binding Affinity, Competition, and Cooperativity

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PERSPECTIVE: Beyond the Balance of Activator and Repressor

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Transcription factor binding site affinity has a counterintuitive effect on the regulation of gene expression in response to Hedgehog.

RESEARCH ARTICLE: Antigen Potency and Maximal Efficacy Reveal a Mechanism of Efficient T Cell Activation

O. Dushek et al.

Efficient T cell activation depends on the rate with which T cell receptors and antigens bind and unbind, rather than simply their equilibrium affinity.

GLOSSARY

Find out what BL, DUB, and FX mean in the world of cell signaling.

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8 June issue: <http://scim.ag/stm060811>

PERSPECTIVE: Broken Barriers—A New Take on Sepsis Pathogenesis

N. M. Goldenberg et al.

Loss of the endothelial barrier and subsequent leakiness in the microvasculature might be key determinants of the pathogenesis of sepsis.

RESEARCH ARTICLE: Protein Interactome Reveals Converging Molecular Pathways Among Autism Disorders

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An autism protein interaction network provides a framework for studying autism pathogenesis.

RESEARCH ARTICLE: Off-Target Lapatinib Activity Sensitizes Colon Cancer Cells Through TRAIL Death Receptor Up-Regulation

N. G. Dolloff et al.

The breast cancer drug lapatinib increases the sensitivity of colon cancer cells to apoptosis through a HER2- and EGFR-independent mechanism.

RESEARCH ARTICLE: Host Alloreactive Memory T Cells Influence Tolerance to Kidney Allografts in Nonhuman Primates

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PERSPECTIVE: Transplantation Tolerance—Memories That Haunt Us

M. L. Ford and C. P. Larsen

Screening for preformed donor-reactive memory T cells may advance the goal of organ transplant acceptance without immunosuppression.

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I. S. Levine

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S. A. Holgate

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On the 10 June Science Podcast: assessing microcredit programs, preschool's lasting impacts, the archaeology of human cognition, and more.

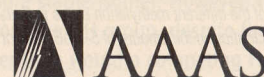
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Science Policy News and Analysis

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