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Photo Illustration: Yael Kats; Images: Walter Bibikow/ Getty Images (desks); Alamy (girl)

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- 101 A Glucosinolate Metabolism Pathway in Living Plant Cells Mediates Broad-Spectrum Antifungal Defenses
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Plant cells defend against fungal attack through an innate immunity pathway in which infection triggers glucosinolate synthesis, stimulating formation of a protective callose.

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- 110 Broadband Invisibility by Non-Euclidean Cloaking
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- 112 Control of Self-Assembly of DNA Tubules Through Integration of Gold Nanoparticles
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- 116 Declining Coral Calcification on the Great Barrier Reef
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- 119 Stretching the Envelope of Past Surface Environments: Neoproterozoic Glacial Lakes from Svalbard
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- 122 Why Peer Discussion Improves Student Performance on In-Class Concept Questions
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- 130 Floral Iridescence, Produced by Diffractive Optics, Acts as a Cue for Animal Pollinators
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- 133 Real-Time DNA Sequencing from Single Polymerase Molecules
J. Eid et al.

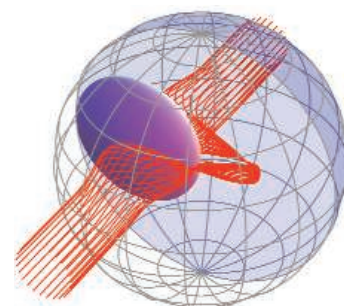
Arrays of narrow waveguides can record the action of a DNA polymerase stepping along a primer template, potentially providing a way to sequence DNA molecules.

- 139 Phage-Mediated Intergeneric Transfer of Toxin Genes
J. Chen and R. P. Novick

Viruses may transfer toxin genes among pathogenic bacteria in raw milk, complicating veterinary use of phage therapy as a bactericide.



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- 141 Stable Introduction of a Life-Shortening *Wolbachia* Infection into the Mosquito *Aedes aegypti*
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Infection of mosquitoes with a bacterium shortens their lives and reduces disease transmission, without development of resistance.

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SCIENCEEXPRESS

www.sciencexpress.org

Cytosolic Viral Sensor RIG-I Is a 5'-Triphosphate-Dependent Translocase on Double-Stranded RNA
S. Myong et al.

A host protein that recognizes invading viruses activates innate immunity defenses only when it senses both double-stranded RNA and a 5' triphosphate.
10.1126/science.1168352

Neuronal Activity-Induced Gadd45b Promotes Epigenetic DNA Demethylation and Adult Neurogenesis
D. K. Ma et al.

Neural activity induces an immediate early gene that triggers epigenetic modifications needed for neurogenesis.
10.1126/science.1166859

TECHNICALCOMMENTS

Comment on "Log or Linear? Distinct Intuitions of the Number Scale in Western and Amazonian Indigene Cultures"

J. F. Cantlon et al.

full text at www.sciencemag.org/cgi/content/full/323/5910/38b

Response to Comment on "Log or Linear? Distinct Intuitions of the Number Scale in Western and Amazonian Indigene Cultures"

S. Dehaene et al.

full text at www.sciencemag.org/cgi/content/full/323/5910/38c

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Normal form of protein linked to neurodegenerative conditions may aid sense of smell.

Is Morphine a Guy Drug?

New research may explain why males benefit more from opioid painkillers.

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EDITORIAL GUIDE: Beyond Microarrays

M. B. Yaffe

Studies of global changes in messenger RNA abundance may be less than insightful.

RESEARCH ARTICLE: mAKAP Compartmentalizes Oxygen-Dependent Control of HIF-1 α

W. Wong et al.

The scaffold protein muscle A kinase-anchoring protein (mAKAP) regulates the stability and localization of the transcription factor HIF-1 α .

RESEARCH ARTICLE: Type I IL-4Rs Selectively Activate IRS-2 to Induce Target Gene Expression in Macrophages

N. M. Heller et al.

PERSPECTIVE: Untangling the Complex Web of IL-4- and IL-13-Mediated Signaling Pathways

M. Wills-Karp and F. D. Finkelman

Understanding how IL-4 and IL-13 signaling differ could result in the development of better anti-inflammatory therapies.

PERSPECTIVE: Bursting into the Nucleus

G. R. Crabtree and I. A. Graef

Calcium elicits bursts of nuclear localization of a yeast transcription factor, which may enable the coordinated activation of target genes.

REVIEW: Structure and Function of the Phosphothreonine-Specific FHA Domain

A. Mahajan et al.

The forkhead-associated (FHA) domain binds specifically to phosphothreonine residues and possesses unique structural and functional features.

MEETING REPORT: Regulatory T Cells—The Cunning Fox and Its Clinical Application

D. S. Game et al.

A conference in Beijing, China focused on the biology of regulatory T cells and their potential uses in treating various diseases.

SCIENCE CAREERS

www.sciencereers.org/career_development
Free Career Resources For Scientists

Taken for Granted: Brother, Can You Spare a Temporary Worker Visa?

B. L. Benderly

The controversial H-1B visa program needs major reform.

In Person: Eggheads and Cheeseheads

D. Albert

A researcher reflects on the institutional cultures between the Ivy League and Big Ten.

Smarter Than the Average Desk

A. Saini

Engineer Andrew Hatch hopes to create the paperless classroom of the future.

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January 2009 Funding News

J. Fernández

Learn about the latest in research funding, scholarships, fellowships, and internships.

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SCIENCEONLINE FEATURE

VIDEO: Education and Technology

An introduction to this week's special section about how education is changing in the face of technology.

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SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals Mail postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 2009 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$146 (\$74 allocated to subscription). Domestic institutional subscription (51 issues): \$835; Foreign postage extra: Mexico, Caribbean (surface mail) \$55; other countries (air assist delivery) \$85. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. Publications Mail Agreement Number 1069624. **Printed in the U.S.A.**

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323 (5910)

Science **323** (5910), 12-145.

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