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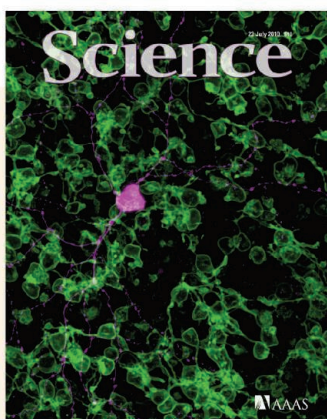


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COVER

Retinal photoreceptors from a mouse model of retinitis pigmentosa, a degenerative disease that leads to blindness, following gene therapy. Expression of a microbial light-activated ion pump (green) in damaged cone cells restored light sensitivity to the diseased retinas. An activated ganglion cell, which relays visual information to the brain, is shown in magenta (diameter, ~12 μm). See page 413.

Image: Volker Busskamp and Botond Roska/Friedrich Miescher Institute for Biomedical Research, Basel, Switzerland

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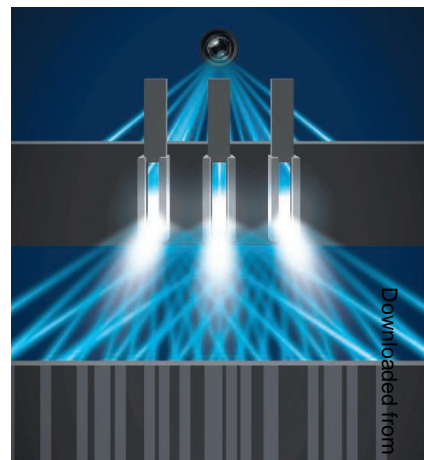
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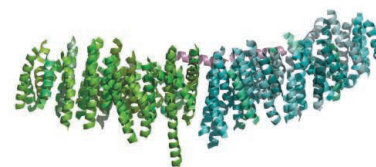
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SCIENCEONLINE

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Effectiveness and Safety of Tenofovir Gel, an Antiretroviral Microbicide, for the Prevention of HIV Infection in Women

Q. Abdoor Karim et al.

Tenofovir in a vaginal gel formulation shows significant protection against HIV infection in a randomized control trial.

10.1126/science.1193748

>> *News story p. 374; Science Podcast*

The *Legionella* Effector Protein DrrA AMPylates the Membrane Traffic Regulator Rab1b

M. P. Müller et al.

An intracellular bacterial pathogen interferes with host cell membrane trafficking.

10.1126/science.1192276

Detection of C₆₀ and C₇₀ in a Young Planetary Nebula

J. Cami et al.

Hydrogen-poor conditions allow fullerenes to form in space.

10.1126/science.1192035

Decrease in the CO₂ Uptake Capacity in an Ice-Free Arctic Ocean Basin

W.-J. Cai et al.

The current carbon dioxide levels in the Arctic Ocean basin will limit further uptake under ice-free conditions.

10.1126/science.1189338

The Kamil Crater in Egypt

L. Folco et al.

An unusually well-preserved 45-meter-diameter crater provides ground truth for small-scale meteorite impacts on Earth.

10.1126/science.1190990

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New model attempts to calculate the odds of in vitro fertilization success.

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The Case of the Poisoned Fuel Cell

New catalysts could revive efforts to power fuel cells with gasoline and other liquid fuels.

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RESEARCH ARTICLE: Increased Abundance of Opioid Receptor Heteromers After Chronic Morphine Administration

A. Gupta et al.

The μ - δ opioid heteromer may be a target for alleviation of chronic pain.

LETTERS: Comment and Response on "Increased MKK4 Abundance with Replicative Senescence Is Linked to the Joint Reduction of Multiple MicroRNAs"

U. Moens et al. and M. Gorospe et al.

Questions are raised about the antibody used to detect the phosphorylated form of the kinase PRAK.

PODCAST

M. Fainzilber and A. M. VanHook

Network redundancies lend robustness to the neuronal injury response.

GLOSSARY

Find out what FAST1, ARE, and ePR mean in the world of cell signaling.

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PERSPECTIVE: Closing the Scientific Loop— Bridging Correlation and Causality in the Petaflop Age

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High-performance computing, combined with an evolutionary paradigm for the interpretation of biomedical knowledge, can pinpoint disease causes.

PERSPECTIVE: Could Exercise Metabolomics Pave the Way for Gymnomimetics?

M. F. Burke et al.

An analysis of metabolites that change in concentration during exercise suggests possibilities for mimicking its beneficial effects.

RESEARCH ARTICLE: Comprehensive, Quantitative Mapping of T Cell Epitopes in Gluten in Celiac Disease

J. A. Tye-Din et al.

Three immunogenic peptides from gluten are mainly responsible for celiac disease, suggesting a way to replace the current burdensome therapy.



SCIENCE CAREERS

Don't try this at home.

RESEARCH ARTICLE: CD4⁺CD25⁺ Regulatory T Cell Depletion Improves the Graft-Versus-Tumor Effect of Donor Lymphocytes After Allogeneic Hematopoietic Stem Cell Transplantation

S. Maury et al.

Transplanted donor lymphocytes treat recurrent malignancy more effectively when they have been depleted of inhibitory T regulatory cells.

SCIENCE PODCAST

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Download the 23 July *Science* Podcast to hear about a microbicidal gel for preventing HIV infection, plans for hydropower dams in Patagonia, turbulent moss spore dispersal, and more.

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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 © 2010 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): \$910; 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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Science

329 (5990)

Science **329** (5990), 367-466.

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