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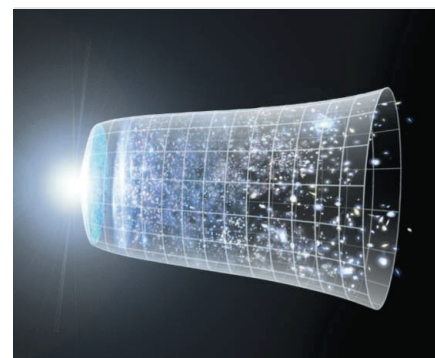
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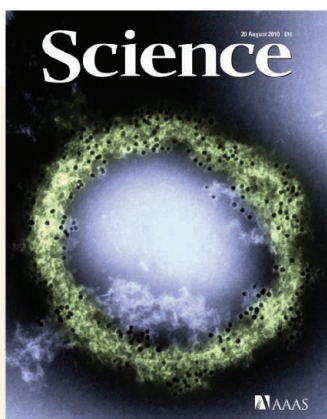


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COVER

Immuno-electron micrograph of a plastid-dividing ring (diameter ~500 nm), a structure required for chloroplast division, isolated from the unicellular alga *Cyanidioschyzon merolae*. Immunogold particles (black dots) indicate localization of the glycosyltransferase protein PDR1 (protein dividing ring 1), which forms a ring with carbohydrates that constricts to physically divide the chloroplast. See page 949.

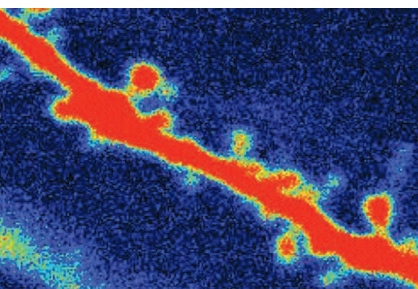
Image: Yamato Yoshida, Haruko Kuroiwa, Tsuneyoshi Kuroiwa/Research Information Center for Extremophile, Rikkyo University, Tokyo, Japan

DEPARTMENTS

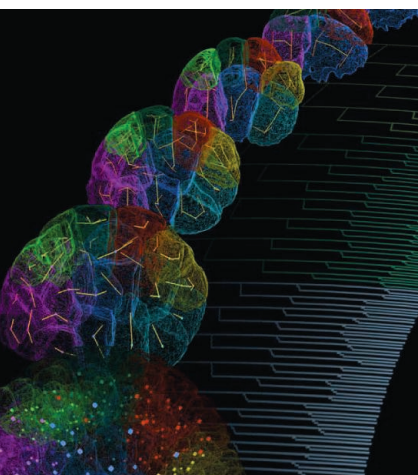
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Tracking Hydrocarbon Plume Transport and Biodegradation at *Deepwater Horizon*

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In late June 2010, the *Deepwater Horizon* oil plume stretched more than 35 kilometers at a depth of 1100 meters.

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Plastic Accumulation in the North Atlantic Subtropical Gyre

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A Red-Shifted Chlorophyll

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A *Vibrio* Effector Protein Is an Inositol Phosphatase and Disrupts Host Cell Membrane Integrity

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Comment on "The Silicate-Mediated Formose Reaction: Bottom-Up Synthesis of Sugar Silicates"

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Full text at www.sciencemag.org/cgi/content/full/329/5994/902-a

Response to Comment on "The Silicate-Mediated Formose Reaction: Bottom-Up Synthesis of Sugar Silicates"

J. B. Lambert et al.

Full text at www.sciencemag.org/cgi/content/full/329/5994/902-b

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New research questions the link between mammoth eruptions and mass extinctions.

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RESEARCH ARTICLE: TPL-2–Mediated Activation of MAPK Downstream of TLR4 Signaling Is Coupled to Arginine Availability
V. Mieulet et al.

RESEARCH ARTICLE: Arginine Usage in Mycobacteria-Infected Macrophages Depends on Autocrine-Paracrine Cytokine Signaling
J. E. Qualls et al.

PERSPECTIVE: Arginine—Master and Commander in Innate Immune Responses
S. M. Morris Jr.

In addition to acting as an enzyme substrate, arginine functions as a regulatory molecule in immune cells.

REVIEW: Phosphoinositide 3-Kinase Signaling in Thymocytes—The Need for Stringent Control
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PI3K signaling is important in the development of normal and malignant thymocytes.

GLOSSARY

Find out what AER, AGC, and COS mean in the world of cell signaling.

SCIENCE CAREERS

www.sciencereers.org/career_magazine
Free Career Resources for Scientists

Tooling Up: A Job-Search Plan for the Person Without One (Part One)

D. Jensen

A fruitful job search takes preparation, careful consideration, and networking.

A Cosmologist Resists Academia's Work-Life Norms

S. Reed

Sarah Bridle has carved out a successful career while resisting long hours and personal sacrifices.

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COMMENTARY:

 360 Degrees of Human Subjects Protections in Community-Engaged Research
L. F. Ross

When communities are both participants and partners in research, effective human subjects protections must address both individual and group risks.

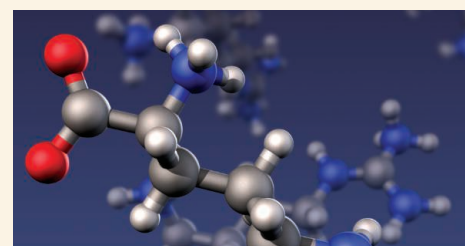
RESEARCH ARTICLE: The Four-Herb Chinese Medicine PHY906 Reduces Chemotherapy-Induced Gastrointestinal Toxicity
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PERSPECTIVE: Are Herbal Medicines Ripe for the Cancer Clinic?
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Y.-C. Cheng and A. M. VanHook

A traditional Chinese medicine reduces the intestinal toxicity of chemotherapy by inhibiting inflammation and promoting cell proliferation.



SCIENCE SIGNALING

Arginine in the immune system.

RESEARCH ARTICLE: Multivalent Integrin-Specific Ligands Enhance Tissue Healing and Biomaterial Integration

T. A. Petrie et al.

Titanium implants coated with nanoclustered integrin are tightly integrated into bone for orthopedic applications.

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