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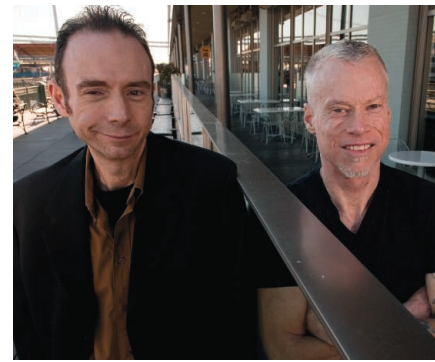
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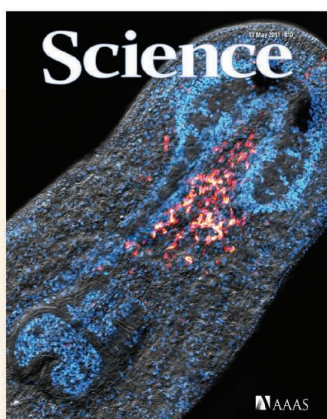
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COVER

Composite confocal image of an adult planarian (*Schmidtea mediterranea*) showing a growing colony of dividing cells (red) that initiated from a single, pluripotent stem cell called a clonogenic neoblast (cNeoblast). The ~1-millimeter-long animal is visualized with differential interference contrast microscopy and nuclear staining (blue). The colony is just posterior to the animal brain (nuclei-rich, bi-lobed structure) and eyes (two dark pigmented areas). See page 811.

Credit: Daniel E. Wagner, Irving E. Wang, Peter W. Reddien/Department of Biology, Massachusetts Institute of Technology, Whitehead Institute for Biomedical Research

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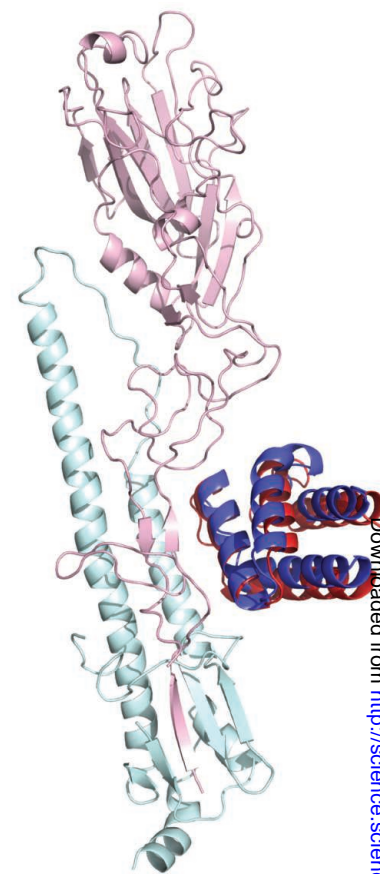
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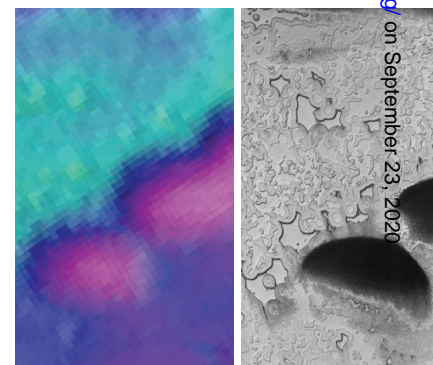
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D. E. Wagner et al.
A pluripotent adult stem cell underlies flatworms' amazing regenerative ability.
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- 816 **Computational Design of Proteins Targeting the Conserved Stem Region of Influenza Hemagglutinin**
S. J. Fleishman et al.
Proteins can be designed that bind to specific patches on target proteins to alter their subsequent interactions.
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W. L. Johnson et al.
Resistive heating can be used to rapidly heat a bulk metallic glass without inducing crystallization.
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H. H. Liu et al.
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T. Watanabe et al.
Small, noncoding PIWI-interacting RNAs regulate the imprinting of a mouse gene.
- 852 **Polarized *notum* Activation at Wounds Inhibits Wnt Function to Promote Planarian Head Regeneration**
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Evidence of a Global Magma Ocean in Io's Interior

K. K. Khurana et al.

Magnetic field measurements made near Jupiter's moon Io strengthen the evidence for a magma ocean in its interior.

10.1126/science.1201425

Carbon-Based Supercapacitors Produced by Activation of Graphene

Y. Zhu et al.

Activated microwave-exfoliated graphite oxide combined with an ionic liquid can be used to make an enhanced capacitor.

10.1126/science.1200770

Disorder-Enhanced Transport in Photonic Quasicrystals

L. Levi et al.

Optical interference in a photorefractive crystal is used to study light propagation in a controlled disordered system.

10.1126/science.1202977

Local Macrophage Proliferation, Rather than Recruitment from the Blood, Is a Signature of T_H2 Inflammation

S. J. Jenkins et al.

Proliferation in situ, rather than immune cell recruitment, drives macrophage expansion in response to parasitic infection.

10.1126/science.1204351

Crystal Structure of the Maltose Transporter in a Pretranslocation Intermediate State

M. L. Oldham and J. Chen

An intermediate structure provides insight into how a transport substrate allosterically activates adenosine triphosphatase activity.

10.1126/science.1200767

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Fracking for deep stores of methane may be contaminating nearby wells.

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Ancient bombardments may have transformed ammonia-rich ices into gaseous nitrogen.

<http://scim.ag/titan-impacts>

Earliest American Dogs May Have Been Dinner

A bone found in 9000-year-old human excrement may be the first definitive evidence of dogs in the New World and of dogs being eaten by people.

<http://scim.ag/dog-dinner>

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The Signal Transduction Knowledge Environment

10 May issue: <http://scim.ag/ss051011>

RESEARCH ARTICLE: Methylation of a Phosphatase Specifies Dephosphorylation and Degradation of Activated Brassinosteroid Receptors

G. Wu et al.

PERSPECTIVE: PP2A Phosphatases—The “On-Off” Regulatory Switches of Brassinosteroid Signaling

S. Di Rubbo et al.

The abundance of brassinosteroid receptors and thus the intensity of brassinosteroid signaling are set by methylation of a protein phosphatase.

RESEARCH ARTICLE: A Peptide-Based Target Screen Implicates the Protein Kinase CK2 in the Global Regulation of Caspase Signaling

J. S. Duncan et al.

PERSPECTIVE: Protein Kinases Curb Cell Death

O. Filhol and C. Cochet

Phosphorylation of caspase substrates by the protein kinase CK2 may underlie its role in tumorigenesis.

GLOSSARY

Find out what AAM, BFA, and cSMAC mean in the world of cell signaling.

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An Interdisciplinary Approach to Successful Aging

E. Pain

Social and behavioral scientist Nardi Steverink studies the psychological well-being of older people to help them stay well and happy longer.

<http://scim.ag/steverink>

On Kidney Stones and Qualifying Exams

A. Marnett

Both can be painful and hard to pass, but proper preparation can make it easier—for the qualifying exam, at least.

http://scim.ag/qualifying_exam

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Integrating Medicine and Science

11 May issue: <http://scim.ag/stm051111>

COMMENTARY: Universal Design of Research—Inclusion of Persons with Disabilities in Mainstream Biomedical Studies

A. S. Williams and S. M. Moore

Simple changes in clinical study design allow individuals with disabilities to participate in and contribute to research.

PERSPECTIVE: Diagnosing the Individual to Control the Epidemic

G. F. Medley

Infection experiments help to elucidate how epidemics propagate through individuals.

RESEARCH ARTICLE: Losartan Restores Skeletal Muscle Remodeling and Protects Against Disuse Atrophy in Sarcopenia

T. N. Burks et al.

PODCAST

R. D. Cohn and A. Colmone

Losartan improves muscle remodeling and protects against immobilization atrophy by mediating pathways critical for muscle homeostasis.

RESEARCH ARTICLE: Cytosolic DNA Triggers Inflammasome Activation in Keratinocytes in Psoriatic Lesions

Y. Dombrowski et al.

In psoriasis, cytosolic DNA in keratinocytes triggers maturation of the cytokine IL-1 β via the AIM2 inflammasome.

RESEARCH ARTICLE: In Vivo Liver Regeneration Potential of Human Induced Pluripotent Stem Cells from Diverse Origins

H. Liu et al.

Hepatic cells derived from human induced pluripotent stem cells of various origins contribute to liver regeneration in vivo.

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