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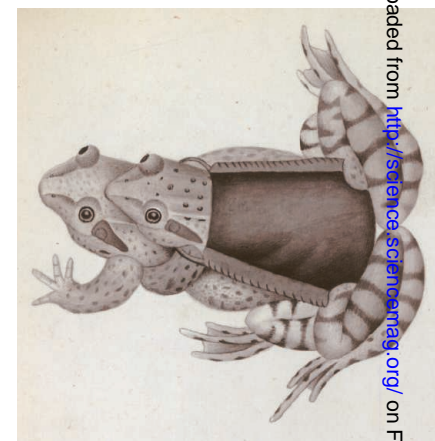
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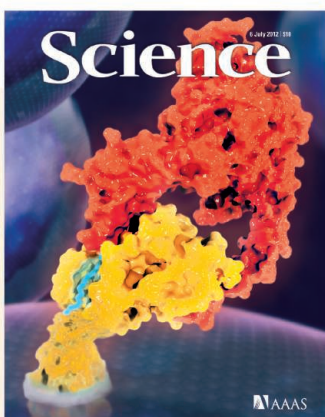


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COVER

Structure of the Wnt signaling molecule (red) in complex with the Frizzled ligand-binding domain (yellow), schematically depicted as connected to the cell surface. A key feature of this structure is the visualization of a lipid group (blue) on Wnt directly engaging Frizzled. The Wnt/Frizzled mode of binding paves the way for the design of Wnt-based therapeutics. See page 59.

Image produced by Eric Smith and Chris Garcia

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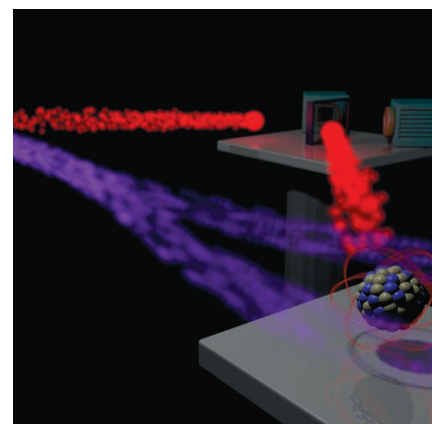
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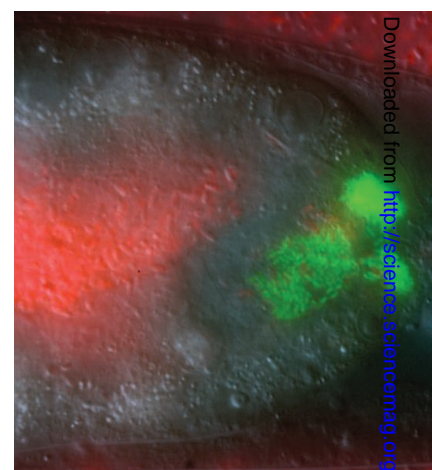
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Iceberg Alert for NIH

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10.1126/science.1226460

Challenges to India's Pharmaceutical Patent Laws

B. N. Sampat et al.

10.1126/science.1224892

Radio Detections During Two State Transitions of the Intermediate-Mass Black Hole HLX-1

N. Webb et al.

Observations of a candidate intermediate-mass black hole support the scale invariance of jets in black holes.

10.1126/science.1222779

Shear-Activated Nanotherapeutics for Drug Targeting to Obstructed Blood Vessels

N. Korin et al.

Nanoparticles carrying a drug that dissolves blood clots disintegrate at sites of stenosis.

10.1126/science.1217815

Bergmann Glial AMPA Receptors Are Required for Fine Motor Coordination

A. S. Saab et al.

Signaling by glial cells helps to preserve cerebellar neurons that control movements.

10.1126/science.1221140

Feedback Regulation of Transcriptional Termination by the Mammalian Circadian Clock PERIOD Complex

K. Padmanabhan et al.

A circadian rhythm regulator acts by altering the elongation stage of gene expression.

10.1126/science.1221592

Type 6 Secretion Dynamics Within and Between Bacterial Cells

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Time-lapse video records a bacterial protein transportation machine in action.

10.1126/science.1222901

TECHNICAL COMMENTS

Comment on "Impacts of the Cretaceous Terrestrial Revolution and KPg Extinction on Mammal Diversification"

O. R. P. Bininda-Emonds and A. Purvis

Full text at www.sciencemag.org/cgi/content/full/337/6090/34-a

Response to Comment on "Impacts of the Cretaceous Terrestrial Revolution and KPg Extinction on Mammal Diversification"

W. J. Murphy et al.

Full text at www.sciencemag.org/cgi/content/full/337/6090/34-b

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A mutation tied to color also decreases sugar content.

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<http://scim.ag/Acid-Rain>

Ancient Hunter-Gatherers Kept in Touch

A study suggests close cultural ties across vast distances.

<http://scim.ag/Hunter-Gatherers>

SCIENCE SIGNALING

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The Signal Transduction Knowledge Environment

6 July issue: <http://scim.ag/ss070612>

RESEARCH ARTICLE: Perinuclear Mitochondrial Clustering Creates an Oxidant-Rich Nuclear Domain Required for Hypoxia-Induced Transcription

A.-B. Al-Mehdi et al.

Hypoxia triggers a transcriptional response initiated by mitochondria.

RESEARCH RESOURCE: Quantitative Imaging of Epithelial Cell Scattering Identifies Specific Inhibitors of Cell Motility and Cell-Cell Dissociation

D. Loerke et al.

Imaging analysis tools identify drugs that inhibit different aspects of cell scattering.

PERSPECTIVE: New Targets for Acetylation in Autophagy

A. Hamai and P. Codogno

Yeast and mammals use protein acetylation to promote the formation of the autophagosome.

PODCAST

K. C. Garcia and A. M. VanHook

Structural analysis reveals how a Wnt binds to its receptor.

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Integrating Medicine and Science

4 July issue: <http://scim.ag/stm070412>

RESEARCH ARTICLE: Pharmacological Rescue of Mitochondrial Deficits in iPSC-Derived Neural Cells from Patients with Familial Parkinson's Disease

O. Cooper et al.

iPSC-derived neural cells from Parkinson's disease patients provide insights into this neurodegenerative disorder.

RESEARCH ARTICLE: Ultrasensitive Clinical Enumeration of Rare Cells ex Vivo Using a Micro-Hall Detector

D. Issadore et al.

PERSPECTIVE: Circulating Tumor Cells—Getting More from Less

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A microfluidic/semiconductor chip analyzes single tagged ovarian cancer cells in tissue samples.

RESEARCH ARTICLE: Targeted Expression of Mutated ALK Induces Neuroblastoma in Transgenic Mice

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ALK inhibitors induce complete tumor regression in a mouse model of ALK-driven neuroblastoma.

RESEARCH ARTICLE: A Tissue Engineering Solution for Segmental Defect Regeneration in Load-Bearing Long Bones

J. C. Reichert et al.

A polycaprolactone- β -tricalcium phosphate scaffold with BMP-7 heals critical-sized bone defects in sheep.

COMMENTARY: From Free to Free Market—Cost Recovery in Federally Funded Clinical Research

M. G. McCammon et al.

Hybrid academic-business models are evolving in CTSA clinical research units.

SCIENCE CAREERS

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Free Career Resources for Scientists

Taken for Granted: A Stellar Opportunity

B. L. Benderly

Two reports propose significant reforms for graduate students and postdocs.

http://scim.ag/TFG_GradReforms

Pushing Students Toward STEM

M. Price

A national STEM workforce conference suggests numerous ways to improve STEM education and training.

<http://scim.ag/BetterTraining>

Asking the Public for Money

L. Laursen

Scientists can raise small amounts of cash for their research through crowd-funding sites.

<http://scim.ag/OnlineFunding>

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337 (6090)

Science **337** (6090), 10-115.

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