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False-colored scanning electron micrograph showing the proximal colon of germ-free mice colonized with bacteria of the genus *Clostridium* (average length ~3.5 micrometers). *Clostridium* species indigenous to the mouse colon stimulate intestinal epithelial cells to induce regulatory T cells, which contribute to the suppression of unfavorable inflammation and allergic responses. See page 337.

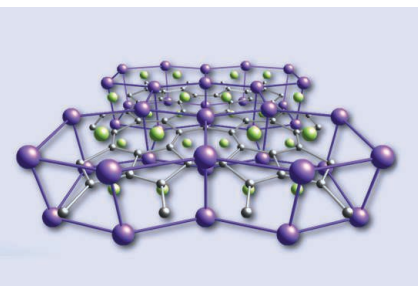
*Image: Kenya Honda, Department of Immunology, University of Tokyo*

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Compared with amateurs, expert shogi players show specific brain activation patterns.  
>> *Science Podcast*

## SCIENCEONLINE

## SCIENCEEXPRESS

[www.scienceexpress.org](http://www.scienceexpress.org)

### Retrieval Practice Produces More Learning than Elaborative Studying with Concept Mapping

*J. D. Karpicke and J. R. Blunt*  
Two different ways of thinking through texts are compared for learning value.  
10.1126/science.1199327

### DAXX/ATR, MEN1, and mTOR Pathway Genes Are Frequently Altered in Pancreatic Neuroendocrine Tumors

*Y. Jiao et al.*  
A rare but deadly form of human pancreatic cancer harbors mutations in chromatin remodeling genes.  
10.1126/science.1200609

### A Bacterial Protein Targets the BAHD1 Chromatin Complex to Stimulate Type III Interferon Response

*A. Lebreton et al.*  
A virulence factor secreted by *Listeria monocytogenes* induces expression of interferon-stimulated genes.  
10.1126/science.1200120

### Increasing Solar Absorption for Photocatalysis with Black Hydrogenated Titanium Dioxide Nanocrystals

*X. Chen et al.*  
An amorphous surface layer on titanium dioxide nanoparticles creates electronic states that allow longer-wavelength photoexcitation.  
10.1126/science.1200448

### Synthesis and Measurement of Ultrafast Waveforms from Five Discrete Optical Harmonics

*H.-S. Chan et al.*  
Optical fields have been manipulated like radio frequencies into sawtooth and square-wave patterns.  
10.1126/science.1198397

## SCIENCE NOW

[www.sciencenow.org](http://www.sciencenow.org)

Highlights From Our Daily News Coverage

### The Solar System Swallower

Astronomers find biggest black hole to date.  
<http://scim.ag/big-black-hole>

### Pandas Prefer Old Forests

Finding may aid conservation policies.  
<http://scim.ag/panda-forest>

### Objects in the Telescope May Be Closer Than They Appear

Astronomers rethink some of their "standard candles."  
<http://scim.ag/standard-candles>

## SCIENCE SIGNALING

[www.sciencesignaling.org](http://www.sciencesignaling.org)

The Signal Transduction Knowledge Environment  
**18 January issue: <http://scim.ag/ss011811>**

### RESEARCH ARTICLE: The Kinase SGK1 in the Endoderm and Mesoderm Promotes Ectodermal Survival by Down-Regulating Components of the Death-Inducing Signaling Complex

*T. Endo et al.*  
The kinase SGK1 participates in an intertissue survival pathway during the early stages of development.

### PERSPECTIVE: Signals from the Nucleus—Activation of NF- $\kappa$ B by Cytosolic ATM in the DNA Damage Response

*K. Hadian and D. Krappmann*  
The kinase ATM has a cytosolic scaffolding function in the activation of NF- $\kappa$ B in response to DNA damage.

## GLOSSARY

Find out what c-IAP1, MCC, and LKB1 mean in the world of cell signaling.

## SCIENCE CAREERS

[www.sciencereers.org/career\\_magazine](http://www.sciencereers.org/career_magazine)

Free Career Resources for Scientists

### The Why's and What For's of Employment References

*D. Jensen*  
In industry these days, verbal recommendations mean a lot more than those written on paper.  
<http://scim.ag/hjWro3>

### Balancing Professional Aspirations With Family

*E. Pain*  
Neuroscientist John Apergis-Schoute revised his professional aspirations once he started a family.  
<http://scim.ag/ial8o8>

## SCIENCE TRANSLATIONAL MEDICINE

[www.sciencetranslationalmedicine.org](http://www.sciencetranslationalmedicine.org)

Integrating Medicine and Science

**19 January issue: <http://scim.ag/stm011911>**

### COMMENTARY: "Creating Hope" and Other Incentives for Drug Development for Children

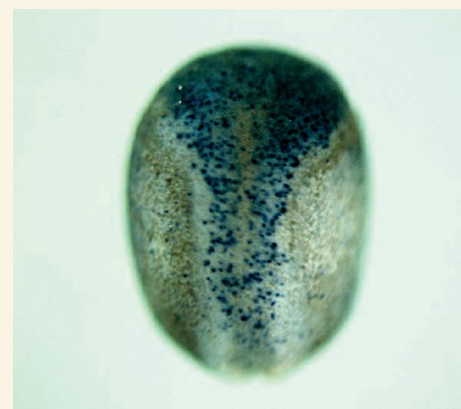
*E. Connor and P. Cure*  
Proposed legislation would provide financial benefits for companies that develop drugs for treating rare pediatric diseases.

### PERSPECTIVE: Leukotriene Inflammatory Mediators Meet Their Match

*C. D. Funk*  
The main enzyme in the leukotriene biosynthesis pathway finally yields to crystallization, paving the way for new leukotriene-modifier drugs.

### RESEARCH ARTICLE: Stromal Endothelial Cells Directly Influence Cancer Progression

*J. W. Franses et al.*  
Endothelial cells can serve as plastic paracrine regulators of cancer biology, modulating tumor growth and metastasis.



## SCIENCE SIGNALING

Embryonic cell death in the absence of SGK1.

### RESEARCH ARTICLE: An Aptamer-siRNA Chimera Suppresses HIV-1 Viral Loads and Protects from Helper CD4<sup>+</sup> T Cell Decline in Humanized Mice

*C. P. Neff et al.*  
A dual-function aptamer that targets both a HIV-1 surface protein and a critical messenger RNA can inhibit HIV infection in humanized mice.

## SCIENCE PODCAST

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## SCIENCE INSIDER

[news.sciencemag.org/scienceinsider](http://news.sciencemag.org/scienceinsider)

Science Policy News and Analysis

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