Dendritic cells of the immune system recognize and bind bacteria and other microbes by means of receptors expressed on the dendritic cell membrane and within the cell, thus triggering an immune response. Microbial sensing is associated with the innate arm of the immune system, and recent developments in this area are described in the special section starting on page 283.

Image: Chris Bickel
Hungry Codons Promote Frameshifting in Human Mitochondrial Ribosomes
R. Temperley et al.
During translation of mitochondrial genes, shifting the ribosome reading frame avoids unconventional arginine codons.

Adaptive Evolution of Pelvic Reduction in Sticklebacks by Recurrent Deletion of a Pitx1 Enhancer
Y. F. Chan et al.
Loss of a tissue-specific enhancer explains multiple parallel losses of the pelvic girdle in stickleback populations.

Direct Imaging of Bridged Twin Protoplanetary Disks in a Young Multiple Star
S. Mayama et al.
An infrared image taken with the Subaru Telescope reveals young binary stars and their circumstellar environments.

How the Shape of an H-Bonded Network Controls Proton-Coupled Water Activation in HONO Formation
R. A. Relph et al.
Vibrational spectroscopy uncovers the role of a surrounding water network in the mediating reaction of a solvated ion.

Electrocatalytic CO₂ Conversion to Oxalate by a Copper Complex
R. Angamuthu et al.
A copper complex can reductively couple carbon dioxide, even in the presence of oxygen.

Ligand-Enabled Reactivity and Selectivity in a Synthetically Versatile Aryl C–H Olefination
D. H. Wang et al.
A palladium-based catalyst eliminates the need for halogenated compounds for the formation of carbon-carbon bonds.

Large-Scale Controls of Methanogenesis Inferred from Methane and Gravity Spaceborne Data
A. A. Bloom et al.
Satellite measurements allow the strength of wetland emissions of methane to be determined.
RESEARCH ARTICLE: Quantitative Phosphoproteomics Reveals Widespread Full Phosphorylation Site Occupancy During Mitosis
J. V. Olsen et al.
Protein phosphorylation during the cell cycle may be an all-or-none process in many instances.

PERSPECTIVE: Cyclic Nucleotides Converge on Brown Adipose Tissue Differentiation
P. S. Amieux and G. S. McKnight
cGMP-mediated signaling pathways are required for the differentiation and function of brown adipocytes.

REVIEW: Basal Release of ATP—An Autocrine-Paracrine Mechanism for Cell Regulation
R. Corriden and P. A. Insel
Responses to ATP play an important role in regulating the signaling and function of a diverse array of cells and tissues.

GLOSSARY
Discover what RANKL and RANK mean in the world of signaling.

SCIENCECAREERS
www.sciencemag.org/career_magazine
Free Career Resources for Scientists
Tenure-Track Jobs Remain Scarce
S. Carpenter
Although most universities have cut faculty hiring, a few are taking advantage of a rich applicant pool.

Tooling Up: What’s Your Mission?
D. Jensen
Your unique life philosophy is the cornerstone of your success and job satisfaction.

Science Careers Blog
Science Careers Staff
Get frequent advice, opinion, news, funding opportunities, and links to other career resources.

SCIENCEPUBLISHING
www.sciencemag.org
The Signal Transduction Knowledge Environment

RESEARCH ARTICLE: Extensive Crosstalk Between O-GlcNAcylation and Phosphorylation Regulates Cytokinesis
Z. Wang et al.
Protein O-GlcNAcylation regulates cell division.

SCIENCEPOLICY
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A Genetic Variant BDNF Polymorphism Alters Extinction Learning in Both Mouse and Human F. Salim et al.
Commonly genetic variation in fear learning operates through the same pathways in mice and men.

Evolutionary Dynamics of Complex Networks of HIV Drug-Resistant Strains: The Case of San Francisco R. J. Smith et al.
Modeling of data from the U.S. indicates the potential for an epidemic wave of antiretroviral-resistant HIV.

Ferroelectric Control of Spin Polarization
V. Garcia et al.
Ferroelectric tunnel junctions control the spin polarization of electrons emitted from iron electrodes.

Effect of Ocean Acidification on Iron Availability to Marine Phytoplankton D. Shi et al.
Ocean acidification caused by anthropogenic carbon dioxide is changing the chemistry and bioavailability of iron in seawater.

Deglacial Meltwater Pulse 1B and Younger Dryas Sea Levels Revisited with Boreholes at Tahiti E. Bard et al.
A coral-based record of sea level from Tahiti defines changes in the rate of sea-level rise between 14,000 and 9000 years ago.

Sea Levels Revisited with Boreholes at Tahiti E. Bard
Deglacial Meltwater Pulse 1B and Younger Dryas

Effect of Ocean Acidification on Iron Availability to Marine Phytoplankton D. Shi
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