

COVER

An artist's conception of the antibiotic penicillin and some of the bacteria that have developed resistance to various antibiotics. A special section beginning on page 355 explores the rise and spread of so-called bad bugs and possible interventions.

Illustration: Chris Bickel/Science

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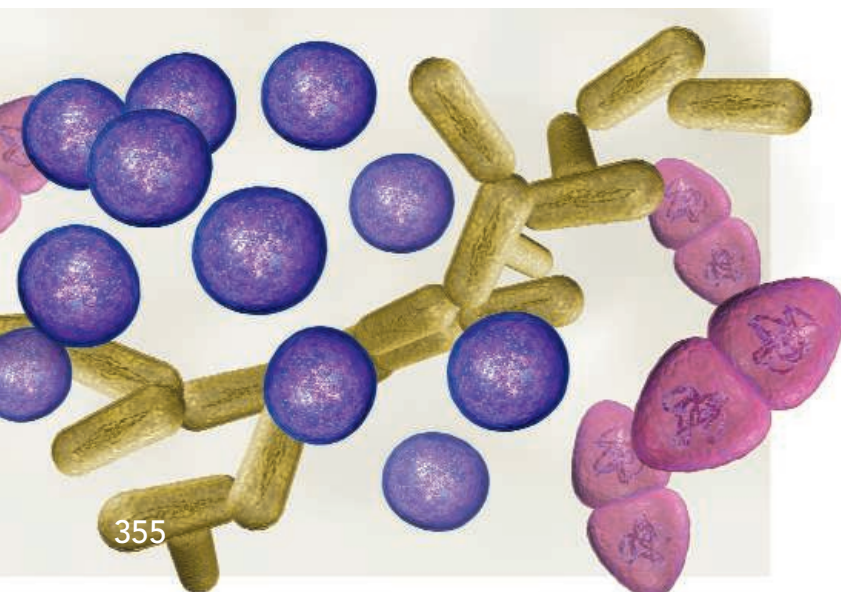
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SCIENCE EXPRESS

www.sciencexpress.org

PLANT SCIENCE

Plant Immunity Requires Conformational Changes of NPR1 via S-Nitrosylation and Thioredoxins

Y. Tada et al.

After a pathogen invades a plant, a protein, usually kept in a multimeric state by S-nitrosylation, is dissociated by thioredoxin, freeing the monomers for defense responses.

10.1126/science.1156970

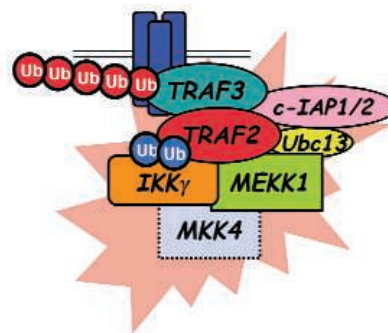
GEOCHEMISTRY

Ferruginous Conditions Dominated Later Neoproterozoic Deep-Water Chemistry

D. E. Canfield et al.

Low sulfur input caused the deeper ocean to become anoxic and rich in ferrous iron 750 million years ago, a reversal from the more oxidizing conditions of the previous 1 billion years.

10.1126/science.1154499



CELL BIOLOGY

Essential Cytoplasmic Translocation of a Cytokine Receptor–Assembled Signaling Complex

A. Matsuzawa et al.

Degradation of one member of a protein complex that forms when a cytokine receptor is activated causes the complex to move to the cytoplasm, triggering the downstream pathway.

10.1126/science.1157340

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*T. J. G. Ettema and S. G. E. Andersson**full text at www.sciencemag.org/cgi/content/full/321/5887/342b*Response to Comment on "A 3-Hydroxypropionate/
4-Hydroxybutyrate Autotrophic Carbon Dioxide
Assimilation Pathway in Archaea"*I. A. Berg, D. Kockelkorn, W. Buckel, G. Fuchs**full text at www.sciencemag.org/cgi/content/full/321/5887/342c*

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OCEAN SCIENCE
Ice Scour Disturbance in Antarctic Waters 371*D. A. Smale et al.*

Icebergs have increasingly scoured the coastlines along the West Antarctic Peninsula as its ice shelves and glaciers have waned, affecting benthic marine communities.

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A search for genetic modulators of sleep in *Drosophila* identified a gene encoding a brain protein that is likely secreted and is required for recovery from sleep deprivation. >> *News story p. 334*

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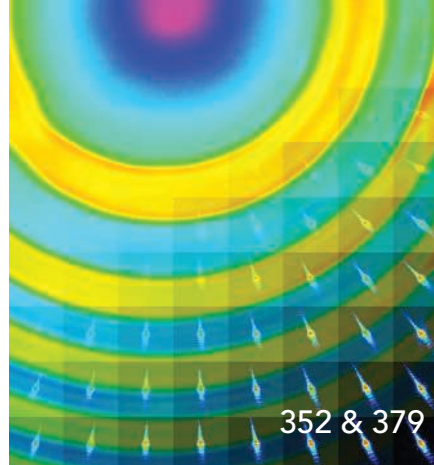
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Devil destroyer.

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A. Saini

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REVIEW: Host-Directed Drug Targeting of Factors Hijacked by Pathogens

A. Schwegmann and F. Brombacher

A new drug discovery paradigm focuses on identifying and targeting cellular elements of the host that are exploited by pathogens.

GLOSSARY

Find out what DILP, HRE, and OGT mean in the world of cell signaling.

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