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The neuronal “play” of past experience may allow animals to retrieve specific memories and use them to guide behavior.

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Inhibition by axo-axonic interneurons functionally separates the input and output of hippocampal pyramidal cells.
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Universities, Key to Prosperity
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Adenylate Cyclases of *Trypanosoma brucei*
Inhibit the Innate Immune Response of the Host
D. Salmon et al.
Parasites release cyclic adenosine monophosphate when swallowed up by myeloid cells, thereby turning off a host defense pathway.
10.1126/science.1222753

Function, Targets, and Evolution of *Caenorhabditis elegans* piRNAs
M. P. Bagijn et al.
Piwi-bound piwi-interacting RNAs recruit endogenous small interfering RNAs to silence mobile genetic elements.
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Rapid Progression of Ocean Acidification in the California Current System
N. Gruber et al.
Rising concentrations of atmospheric carbon dioxide threaten to amplify the severity of ocean acidification in upwelling zones.
10.1126/science.1216773

Mitochondrial Import Efficiency of ATFS-1 Regulates Mitochondrial UPR Activation
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When stressed, the mitochondrion reduces import of a transcription factor, which enters the nucleus instead.
10.1126/science.1225360

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Life Blooms Under Arctic Ice
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**RESEARCH ARTICLE:** The Transcription Factor TFEB Links mTORC1 Signaling to Transcriptional Control of lysosomal Homeostasis
A. Roziak-Ferguson et al.

**PODCAST**
S. M. Ferguson and A. M. VanHook
Regulated nuclear translocation of a transcription factor maintains lysosomal homeostasis.

**RESEARCH ARTICLE:** The *lin-4* MicroRNA Targets the *LIN-14* Transcription Factor to Inhibit Netrin-Mediated Axon Attraction
Y. Zou et al.
A microRNA instructs neurons when to stop axonal pathfinding.

**PERSPECTIVE:** S-Nitrosylation Signaling in *Escherichia coli*
I. Gasarov and E. Nudler
Two posttranslational modifications of a transcription factor enable bacteria to adapt to changes in NO and O2.

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For more effective vaccine advocacy, scientists and policy-makers must translate and apply insights from the cognitive and social sciences to the way they communicate and engage with the public.

**RESEARCH ARTICLE:** Cell Carriage, Delivery, and Selective Replication of an Oncolytic Virus in Tumor in Patients
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**RESEARCH ARTICLE:** Myocardial Infarction Triggers Chronic Cardiac Autoimmunity in Type 1 Diabetes
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Acute myocardial infarction triggers an autoimmune attack on the heart in a mouse model of type 1 diabetes and in human type 1 diabetic patients.

**RESEARCH ARTICLE:** Exome Sequencing Can Improve Diagnosis and Alter Patient Management
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Exome sequencing of 138 patients with neurodevelopmental disorders shows that this technique is useful for identifying new pathogenic mutations and for correcting diagnosis in ~10% of cases.

**RESEARCH ARTICLE:** Mucus-Penetrating Nanoparticles for Vaginal Drug Delivery Protect Against Herpes Simplex Virus
L. M. Ensign et al.
Mucus-penetrating particles improve drug delivery to the murosal surface of the mouse vagina and deliver acyclovir for enhanced protection against vaginal herpes infection in mice.

**RESEARCH ARTICLE:** Successful Treatment of Ebola Virus–Infected Cynomolgus Macaques with Monoclonal Antibodies
X. Qiu et al.
Macaques survived infection with Ebola virus when treated starting at 24 hours after infection with a mix of three neutralizing monoclonal antibodies.

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