



Publications of the Week

Mechanisms Linking Cytoplasmic Decay of Translation-Defective mRNA to Transcriptional Adaptation

First Author: Mohamed El-Brolosy (*pictured*) | Senior Author: Jonathan Weissman
Science | Whitehead Institute, Howard Hughes Medical Institute, David H. Koch Institute for Integrative Cancer Research, Massachusetts General Hospital, Broad Institute, Harvard University, Harvard Society of Fellows, and MIT



How cytoplasmic RNA degradation influences nuclear transcriptional activation and the nature of the mRNA decay intermediates that initiate this process have remained unclear. This study identifies ILF3 as a mediator of transcriptional adaptation, linking cytoplasmic mRNA decay to nuclear transcriptional activation. Here, the researchers offer a potential strategy that can be explored as a therapeutic modality for genetic disorders. [Abstract](#) | [Press Release](#)

Directed Differentiation of Functional Corticospinal-Like Neurons from Endogenous SOX6⁺/NG2⁺ Cortical Progenitors

First Author: Abdulkadir Ozkan (*pictured*) | Senior Author: Jeffrey Macklis
eLife | Harvard University



No appropriate *in vitro* models exist with which to investigate corticospinal neurons selective vulnerability and degeneration in amyotrophic lateral sclerosis. Here, researchers identify that the HMG-domain transcription factor *Sox6* is expressed by a subset of NG2⁺ endogenous cortical progenitors in postnatal and adult cortex, and that *Sox6* suppresses a latent neurogenic program by repressing proneural *Neurog2* expression by progenitors. [Abstract](#) | [Press Release](#)

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Awards

Drs. Meg Younger and Jeffrey Marlow Selected as 2026 Frontiers of Science Fellows

Boston University Biology



Drs. Meg Younger (*pictured, left*) and Jeffrey Marlow (*right*) were selected by the National Academy of Sciences as 2026 Frontiers of Science Fellows. The National Academy of Sciences recognized 81 young researchers in variety of professional fields such as industry, academia, and government. Fellows are aged 45 or younger, already making an impact across a number of disciplines, often having already received awards for their contributions to science. [Read More](#)

Sloan Fellowship Will Help Dr. Linlin Fan Advance Technology to Study How Brain Circuits Change Amid Learning

The Picower Institute



Dr. Linlin Fan (*pictured*) uses innovative optical tools to precisely investigate how connections change among neurons during memory formation. Previously, Dr. Fan has helped to pioneer “all-optical physiology”. With a new fellowship from the Alfred P. Sloan Foundation, she plans to advance the technique to enable investigation of larger volumes of cells deeper in the brain. [Read More](#)

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Local News

A World Without TB? John Green Says It's Overdue

Tufts Now



Many Americans believe tuberculosis (TB) is an historic relic, said Dr. Ramnath Subbaraman. Despite being the world's deadliest infectious disease, TB remains out of sight and out of mind in many developed countries. That is one reason Dr. Subbaraman was thrilled when author John Green accepted his invitation to speak at Tufts about his instant bestseller *Everything Is Tuberculosis*, which has helped raise public awareness of the disease. [Read More](#)

Opening a New Window on the Brainstem, AI Algorithm Enables Tracking of Its Vital White Matter Pathways

The Picower Institute



The signals that drive many of the brain and body's most essential functions course through bundles of “white matter” fibers in the brainstem, but imaging systems so far have been unable to finely resolve these crucial neural cables. A research team led by MIT graduate student Mark Olchanyi (*pictured*) reports that their BrainStem Bundle Tool, which they've made publicly available, revealed distinct patterns of structural changes in patients with neurodegenerative disorders. [Read More](#)

Alloy Accelerates Mediar Timeline to the Clinic for Complex Fibrosis Targets

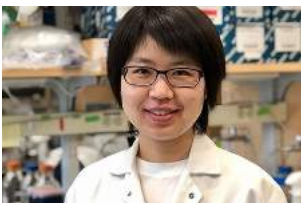
Business Wire



Alloy Therapeutics, a Boston-based biotechnology company, announced the successful completion of an antibody discovery collaboration with Mediar Therapeutics. Leveraging Alloy's ATX-Gx™ human transgenic mouse platform, advanced genetic immunization strategies, and AI/ML-enabled discovery workflows, Alloy has delivered a series of differentiated binders against a new challenging target. [Read More](#)

New Study Pinpoints Toxic Proteins as Primary Drivers of ALS and FTD

Sean M. Healey & AMG Center for ALS



Emerging research from the Clotilde Lagier-Tourenne Lab is shedding new light on how genetic mutations in the *C9ORF72* gene cause amyotrophic lateral sclerosis (ALS) and frontotemporal dementia (FTD). Dr. Xin Jiang (*pictured*) was the lead investigator on the study. Their central findings involved exploration of the long-debated question: Which causes nerve damage in *C9ORF72*-associated ALS and FTD: dipeptide repeat proteins or repeat RNAs? [Read More](#)

Single Immunization Produces Broad HIV Neutralization in Preclinical Model, Pointing to Simpler Vaccine Strategies

Ragon Institute



A multi-institutional study published in *Science Immunology*, led by the Batista Lab at the Ragon Institute demonstrates that a single immunization can rapidly generate antibodies capable of neutralizing a broad range of HIV strains, thereby offering a potential path toward simpler HIV vaccine regimens. They created a mouse model whose B cells carry the precursor of a broadly neutralizing antibody. [Read More](#)

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Upcoming Events in Boston

February 25 8:30 AM	Better Together: A Pharma & Biotech EHS Forum Museum of Science
February 25 1:30 PM	11th Annual Rare Disease Day Event Broad Institute
February 26 7:00 PM	The Collective Cure: Upstream Solutions for Better Public Health Museum of Science
February 28 1:00 PM	SpaceTime TeaTime MIT Museum
March 18 8:00 AM	OPT Congress 2026 Seaport Hotel Boston

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Science Jobs in Boston

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Picower Institute for Learning & Memory

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