

Publications of the Week

## DGKα/ζ Inhibitors Combine with PD-1 Checkpoint Therapy to Promote T Cell-Mediated Antitumor Immunity

First Author: Michael Wichroski (*pictured*) | Senior Author: Emma Lees  
Science Translational Medicine | Bristol Myers Squibb Company



Programmed cell death protein 1 (PD-1) immune checkpoint blockade therapy has revolutionized cancer treatment. Here, researchers designed a human primary T cell phenotypic high-throughput screening strategy to identify small molecules with distinct and complementary mechanisms of action to PD-1 checkpoint blockade. In the publication profile, Dr. Wichroski shares insights about this study and discusses what he sees for the future of translational medicine. [Profile](#) | [Abstract](#)

## Liquid Biopsy Epigenomic Profiling for Cancer Subtyping

First Authors: Sylvan Baca (*pictured*) and Ji-Heui Seo | Senior Author: Matthew Freedman  
Nature Medicine | Dana-Farber Cancer Institute, Boston Children's Hospital, Massachusetts General Hospital, Brigham and Women's Hospital, Broad Institute, and Harvard Medical School



Although circulating tumor DNA assays are increasingly used to inform clinical decisions in cancer care, they have limited ability to identify the transcriptional programs that govern cancer phenotypes and their dynamic changes during the course of disease. To address these limitations, researchers developed a method for comprehensive epigenomic profiling of cancer from 1 ml of patient plasma. [Abstract](#) | [Press Release](#)

## Global Identification of SWI/SNF Targets Reveals Compensation by EP400

First Author: Benjamin Martin (*pictured*) | Senior Author: Karen Adelman  
Cell | Harvard Medical School and the Broad Institute



Mammalian SWI/SNF chromatin remodeling complexes move and evict nucleosomes at gene promoters and enhancers to modulate DNA access. Although SWI/SNF subunits are commonly mutated in disease, therapeutic options are limited by our inability to predict SWI/SNF gene targets and conflicting studies on functional significance. Here, researchers leverage a fast-acting inhibitor of SWI/SNF remodeling to elucidate direct targets and effects of SWI/SNF. [Abstract](#)

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Awards

## Award Honors Dr. Elly Nedivi's Research on Cortical Plasticity

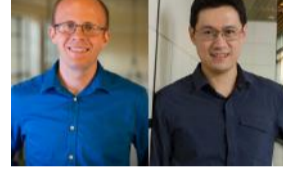
The Picower Institute



The Krieg Cortical Kudos Discoverer Award recognizes Dr. Elly Nedivi's (*pictured*) ongoing work to understand molecular and cellular mechanisms that enable the brain to adapt to experience. The Club's award, first bestowed in 1987, honors outstanding established investigators studying the cerebral cortex, the brain's outer layers where circuits of neurons enable functions ranging from sensory processing to cognition. [Read More](#)

## Drs. Gene-Wei Li and Michael Birnbaum Named Pew Innovation Fund Investigators

MIT News



MIT Professors Drs. Gene-Wei Li (*pictured, right*) and Michael Birnbaum (*left*) are among the twelve researchers named 2023 Innovation Fund investigators by The Pew Charitable Trusts. The pair will look at transcription termination, a key step in cyanobacteria gene regulation that tells the cell when to stop converting genetic information from DNA to RNA. [Read More](#)

## Annual Awards Propel Basic Discoveries into Clinic

Harvard Medical School



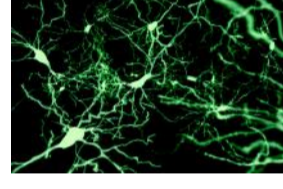
It could take several decades for a basic discovery to become a new medicine. The Harvard Medical School's Blavatnik Therapeutics Challenge Awards program, now in its fourth year, is designed to optimize this process and help push promising early discoveries toward clinic. The 2023 BTCA grants have been awarded to early-stage discoveries that could eventually result in new therapies. Dr. April Craft (*pictured*) is among the 2023 recipients. [Read More](#)

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Local News

## Individual Neurons Mix Multiple RNA Edits of Key Synapse Protein, Study Finds

MIT News



Neurons are talkers. They each communicate with fellow neurons, muscles, or other cells by releasing neurotransmitter chemicals at "synapse" junctions, ultimately producing functions ranging from emotions to motions. A new study in *Cell Reports* by neurobiologists at the Picower Institute highlights a molecular mechanism that might help account for the nuanced diversity of neural discourse. [Read More](#)

## Research Spotlight: Creating Microfluidic Transistors That Control the Movement of Fluids to Autonomously Execute Miniature Lab Operations

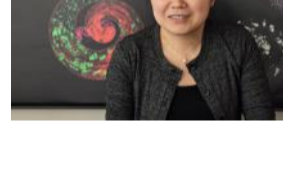
Massachusetts General Hospital



Kaustav Gopinathan (*pictured*), an MD-PhD student at Massachusetts General Hospital, is the first author of a new study in *Nature* that advances the field of microfluidics. Researchers were able to build a self-contained microfluidic circuit block that could sense, process, and controllably dispense individual particles in an automated fashion, without the use of electronic computers. [Read More](#)

## Maintaining Fertility Requires Uneven Division of DNA

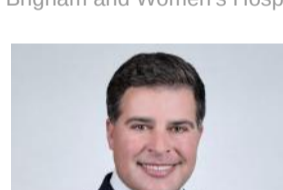
Whitehead Institute



Germline stem cells are the pool of stem cells capable of becoming eggs or sperm. For a long time, the reason underlying their asymmetric division remained an unanswered question. New research from Whitehead Institute's Dr. Yukiko Yamashita (*pictured*) shows that asymmetrical division in germline stem cells serves a different but equally important purpose in male *Drosophila melanogaster*. [Read More](#)

## TIMI Study Finds New Class of Anti-Clotting Drug Reduced Bleeding Events Compared with Standard of Care in Patients with Atrial Fibrillation

Brigham and Women's Hospital



Atrial fibrillation occurs when an individual's heart beats irregularly. Patients with atrial fibrillation are typically prescribed an anticoagulant, or blood thinner, to reduce the risk of stroke. Researchers from Brigham and Women's Hospital, led by Dr. Christian Ruff (*pictured*), evaluated a drug that represents a new class of anticoagulants known as Factor XI inhibitors for treating patients with atrial fibrillation as part of the AZALEA-TIMI 71 Study. [Read More](#)

## The CDC Is Modernizing Its Approach to Data, and This Northeastern Graduate Is Leading the Way

Northeastern Global News



As the head of the new platforms division at the Centers for Disease Control (CDC) and Prevention, Northeastern graduate Jorge Calzada (*pictured*) is charged with bringing health data from the era of fax machines into the realm of rapid delivery and analysis. "When a pandemic happens, you go from zero cases a day, or one case a week, to hundreds of thousands," Calzada says. "You can't throw enough people at this problem to handle all this data." [Read More](#)

## A New Wave of Treatment for Alzheimer's Disease

MIT News




Alzheimer's disease, the appalling and baffling degenerative brain illness that plagues many elderly people, may be caused by several distinct mechanisms driven by various genetic and lifestyle factors, says Dr. Li-Huei Tsai (*pictured*), Picower Professor of Neuroscience at MIT. To fully understand such conditions, she says, we must study the aging brain as a system rather than focusing on one or two types of ailing cells. [Read More](#)

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## Upcoming Events in Boston

- November 20 8:30 AM **Stem Cell Therapies Town Hall**  
Boston Children's Hospital
- November 27-30 8:00 AM **5<sup>th</sup> Annual Gene Therapy Analytical Development**  
Boston Park Plaza
- November 28-30 8:00 AM **6<sup>th</sup> Lab Asset & Facility Management Summit**  
The Westin Copley Place
- December 1 9:00 AM **Minisymposium: Deep Learning for Bioimage Analysis**  
Broad Institute
- December 2-6 8:00 AM **Cell Bio 2023**  
The Westin Copley Place

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## Science Jobs in Boston

**Postdoctoral Fellow, Quantitative Translational Imaging in Medicine Lab**  
Massachusetts General Hospital


**Research & Evaluation Associate**  
Museum of Science

**Translational Research Scientist**  
LanceSoft


**Postdoctoral Research Associate, Antibiotic Discovery**  
Northeastern University

**Infectious Diseases Basic Scientist**  
Boston University

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