



Publications of the Week

CDK5-Cyclin B1 Regulates Mitotic Fidelity

First Authors: Xiao-Feng Zheng and Aniruddha Sarkar | Senior Authors: Alexander Spektor and Dipanjan Chowdhury *(pictured)*
Nature | Dana-Farber Cancer Institute, Harvard Medical School, and the Broad Institute



CDK1 has been known to be the sole cyclin-dependent kinase (CDK) partner of cyclin B1 to drive mitotic progression. Here, researchers demonstrate that CDK5 is active during mitosis and is necessary for maintaining mitotic fidelity. CDK5 is an atypical CDK owing to its high expression in post-mitotic neurons and activation by non-cyclin proteins p35 and p392. [Abstract](#)

Tumor Editing Suppresses Innate and Adaptive Antitumor Immunity and Is Reversed by Inhibiting DNA Methylation

First Authors: Ying Zhang and Pourya Naderi Yeganeh | Senior Authors: Winston Hide and Judy Lieberman *(pictured)*
Nature Immunology | Boston Children's Hospital, Harvard Medical School, and Beth Israel Deaconess Medical Center



Cancer cells edit gene expression to evade immunosurveillance. However, genome-wide studies of gene editing during early tumorigenesis are lacking. Here, researchers used single-cell RNA sequencing in a breast cancer genetically engineered mouse model to identify edited genes without bias. [Abstract](#) | [Press Release](#)

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Awards

The Royal Society of Canada Announces Its 2024 Cohort of Fellows and College Members

The Royal Society of Canada



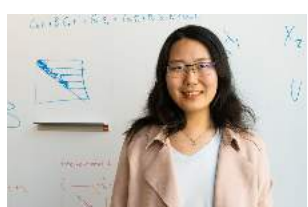
The Royal Society of Canada (RSC) and its Members have elected this year's new Fellows and named the incoming class of the RSC College. One hundred and four new Fellows have been elected by their peers for their outstanding scholarly achievements. Among the 2024 RSC Fellows is Dr. Jeff Karp *(pictured)*, Distinguished Chair at Brigham and Women's Hospital and Professor at Harvard Medical School. [Read More](#)

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Local News

#WhyScience Q&A: A Systems Biologist Develops Computational Tools to Bring Scale to Cell Experiments

Broad Institute



At first, Dr. Yue Qin *(pictured)*, a postdoctoral researcher, thought she wanted to become a medical doctor. As she grew older, she realized she was more interested in learning about the roots of disease and the genes that caused them. The Broad Institute spoke with Dr. Qin about finding her place in science, how computational tools can advance biological research, and what it's like to do both computational and wet lab experiments. [Read More](#)

Soyoung Bae on American Crystallography Association Early Career Scientist Spotlight

Boston University Biology



Soyoung Bae *(pictured)*, a PhD graduate student in the Molecular Biology, Cell Biology, and Biochemistry program at Boston University, has been featured in the American Crystallographic Association's Early Career Scientist Spotlight for 2024. This Spotlight provides insight into Soyoung's background and experience as well as the facilities and instruments used for her work. [Read More](#)

Massachusetts Life Sciences Sector Adds 3,000 New Jobs, Despite Industry Layoffs

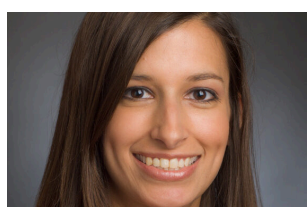
WBUR



Despite layoffs and declines in funding over the past year, Massachusetts' biopharma industry added 3,000 net new jobs in 2023, according to a new report released by MassBio. There are nearly 117,000 workers in the biopharma sector, which represents just 3.7% of the state's overall workforce. But the industry's job growth accounted for nearly 17% of job growth in Massachusetts in 2023, according to the report. [Read More](#)

Immunotherapy for Children with Primary Liver Carcinomas: Research Offers New Hope

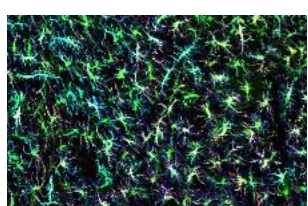
Boston Children's Hospital



Pediatric hepatocellular carcinoma and fibrolamellar carcinoma are rare, aggressive forms of liver cancer that typically affect adolescents and young adults. Now, new research led by Dr. Allison O'Neill *(pictured)* suggests that a class of immunotherapy drugs known as checkpoint inhibitors might be an effective treatment option for a select group of pediatric patients with liver carcinomas. [Read More](#)

Whitehead Institute Researchers Uncover a New Clue Toward Understanding the Molecular Basis of Parkinson's Disease

Whitehead Institute



Dopamine acts as a traffic controller that regulates the flow of electrical signals between neurons, assisting with brain functions like cognition, attention, movement, and behavior. The Jaenisch Lab examined how a mutation in the gene that encodes for alpha-synuclein, a protein regulating the release of dopamine, affects the resident immune cells of the brain called microglia. [Read More](#)

Q&A: Single-Cell and Spatial Proteomics Reveal Proteins' Nuanced Roles in Health and Disease

Broad Institute



Recent improvements in sample handling and mass spectrometer sensitivity are enabling new advances in the form of single-cell and spatial proteomics technologies. This progress is in part driven by optimized methods and more powerful tools developed by researchers such as Dr. Claudia Crotecka *(pictured)*, a postdoctoral associate in the Proteomics Platform at the Broad Institute. [Read More](#)

Finding the Way

McGovern Institute



Scientists see cognitive maps as windows into their biggest questions about the brain: how it represents the external world, how it lets us learn and adapt, and how it forms and reconstructs memories. Dr. Mehrdad Jazayeri *(pictured, right)* and graduate student Jack Gabel *(left)* have created a rig designed to probe the brain's ability to solve real-world problems with internal models. [Read More](#)

New HIV Vaccine Design Shows Promise in Creating Protective Antibodies

Ragon Institute



Researchers at the Ragon Institute's Batista Lab and their collaborators have developed a potential new approach for an HIV vaccine. The study, published in *Science Immunology*, focuses on creating a vaccine component that can stimulate the immune system to produce powerful antibodies against HIV. These findings provide important preclinical support for ongoing human trials. [Read More](#)

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Upcoming Events in Boston

- September 18
8:30 AM **The 2025 Aging Brain Initiative Symposium: The Neuro-Immune Axis and the Aging Brain**
Singleton Auditorium
- September 23
8:00 AM **2024 Rosamund Stone Zander Translational Neuroscience Center Symposium**
Joseph B. Martin Conference Center
- September 23 - 25
9:00 AM **The Biotech Event Accelerating Fresh Ideas, Partnerships, and Opportunities**
Hynes Convention and Exhibition Center
- September 24 - 25
9:00 AM **Kuggie Vallee Distinguished Lectures and Workshops**
Singleton Auditorium
- October 7 - 9
7:00 AM **Digital Health & AI Innovation Summit**
Boston Marriott Cambridge

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Science Jobs in Boston

- Research Specialist**
Boston University School of Medicine
- Associate Director/Director Study Leader, Cell Therapy**
AstraZeneca
- Principal Scientist, Innovation**
Prologue Medicines
- Scientist, Oligonucleotide Bioanalytics**
Intellia Therapeutics
- Senior Scientist, Immunology**
Kymera Therapeutics

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