



Publications of the Week

Design of Soluble Notch Agonists That Drive T Cell Development and Boost Immunity

First Author: Rubul Mout (*pictured*) | Senior Author: George Daley
Cell | Boston Children's Hospital, Harvard University, Howard Hughes Medical Institute, and Dana-Farber Cancer Institute



The rational design of receptor agonists to control cell signaling is an emerging strategy for developing disease therapeutics. Creating a soluble cytokine-like agonist for the Notch receptor, which regulates cell fate in embryonic and adult development, is challenging. Here, researchers exploit computationally designed protein complexes with precise valencies and geometries to generate soluble cytokine-like Notch agonists. [Abstract](#) | [Press Release](#)

Targeting G1–S-Checkpoint-Compromised Cancers with Cyclin A/B RxL Inhibitors

First Author: Shilpa Singh | Senior Author: Matthew Oser (*pictured*)
Nature | Dana-Farber Cancer Institute, Harvard Medical School, and Brigham and Women's Hospital



Small-cell lung cancers contain near-universal loss-of-function mutations in *RB1* and *TP53*, compromising the G1–S checkpoint and leading to dysregulated E2F activity. Other cancers similarly disrupt the G1–S checkpoint through loss of *CDKN2A* or amplification of cyclin D or cyclin E. Although E2F activation is essential for cell cycle progression, hyperactivation promotes apoptosis, presenting a therapeutic vulnerability. [Abstract](#) | [Press Release](#)

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Awards

Gates Foundation Awards \$3 Million in Grants to UMass Chan to Study Gut Health in Pregnant Women in Low- and Middle-Income Countries

UMass Chan Medical School



The Gates Foundation is providing funding to two labs in the Program in Microbiome Dynamics at UMass Chan Medical School for research aimed at improving pregnancy outcomes and gut health in women from low- and middle-income countries. Dr. Vanni Bucci's (*pictured, right*) lab received a \$2 million award and Dr. Ana Maldonado-Contreras (*left*) was awarded \$945,000. [Read More](#)

ACS Announces 2026 National Award Winners

American Chemical Society (ACS)



The recipients of national awards administered by the American Chemical Society for 2026 have been announced. The winners are being acknowledged for their outstanding achievements in chemistry across various fields in the discipline. Among the 2026 cohort is Dr. David Liu (*pictured*) from the Broad Institute and the Howard Hughes Medical Institute. [Read More](#)

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Local News

How AI Could Speed the Development of RNA Vaccines and Other RNA Therapies

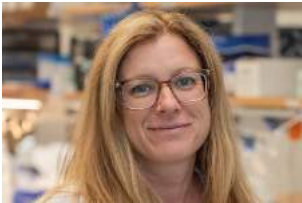
MIT News



Using artificial intelligence, MIT researchers have come up with a new way to design nanoparticles that can more efficiently deliver RNA vaccines and other types of RNA therapies. After training a machine-learning model to analyze thousands of existing delivery particles, the researchers led by Dr. Giovanni Traverso (*pictured*) used it to predict new materials that would work even better. [Read More](#)

Phase I/II Clinical Study of Gene Therapy for GM2 Gangliosidosis, Including Tay-Sachs and Sandhoff Diseases, Shows Encouraging Results

UMass Chan Medical School



Patients in a Phase I/II clinical trial conducted by UMass Chan Medical School of a dual vector gene therapy for GM2 gangliosidosis, which includes Tay-Sachs and Sandhoff diseases, exhibited a biochemical correction of the disease with minimal adverse reactions. "Biochemically it worked," said study investigator Dr. Heather Gray-Edwards (*pictured*). [Read More](#)

Researchers Glimpse the Inner Workings of Protein Language Models

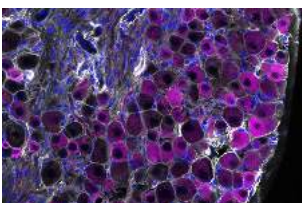
MIT News



In a new study, Onkar Gujral (*pictured*) has used a novel technique to open up the "black box" behind large language models and allow them to determine what features a protein language model takes into account when making predictions. Understanding what is happening inside that black box could help researchers to choose better models for a particular task, helping to streamline the process of identifying new drugs or vaccine targets. [Read More](#)

Unusual Allies: Vagus Nerve Cells Emerge as Defenders Against Flu Damage

Harvard Medical School



A group of nerve cells known for their role in detecting chemical irritation, tissue damage, heat, and pressure now emerge as critical defenders against the worst ravages of the flu caused by an overactive immune response, according to new research. The cells, called TRPV1 vagal nociceptors, live in the vagus nerve, which sends signals from internal organs to the brain to help regulate bodily functions. [Read More](#)

CRISPR Gets Easier with Sid-1's Reversible RNAi Trick

Harvard University Department of Molecular and Cellular Biology



Genome editing in the *C. elegans* worm using CRISPR is highly effective; however, sorting through thousands of candidates is tedious, and accumulating multiple edits in a single strain (serial editing) can get messy. Drs. Craig Hunter, Alix Weisman, and Nicole (Bush) Fisher (*pictured, left to right*) reports a neat little trick that simplifies both challenges. [Read More](#)

Dr. Eric Dang Joins Ragon Faculty

Ragon Institute



Dr. Eric Dang (*pictured*) will be joining the Ragon Institute as a new faculty member. Dr. Dang's research focuses on host-fungal interactions with the immune system. The overall goal of the Dang Lab will be to define the mechanisms that underly the induction and outcome of protective versus detrimental immunity in response to fungi and to understand how fungal colonization or infection alters the host. [Read More](#)

New Research Sheds Light on Why Tamoxifen May Lead to Higher Risk of Uterine Cancer

Dana Farber Cancer Institute



Since its introduction in the 1970s, tamoxifen has significantly improved survival rates for millions of patients with estrogen receptor–positive breast cancer. However, alongside its life-saving benefits, tamoxifen has also been linked—though rarely—to an elevated risk of uterine cancer. A new study led by Dr. Rinath Jeselsohn (*pictured*) sheds light on the mechanism underlying this link. [Read More](#)

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📅 Upcoming Events in Boston

September 11 8:00 AM	Thriving in Biotech: Building Bridges, Breaking Barriers LabCentral
September 15 - 18 8:00 AM	BioProcess International East Hynes Convention and Exhibition Center
September 16 - 18 8:00 AM	Cell & Gene Therapy International Hynes Convention and Exhibition Center
September 16 4:00 PM	Uncovering How Tissues Rewire in Disease Using Deep Learning Whitehead Institute for Biomedical Research
September 18 8:30 AM	The 2025 Aging Brain Initiative Symposium: The Neuro-Immune Axis and the Aging Brain Singleton Auditorium

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📁 Science Jobs in Boston

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Biogen
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Vertex
- Research Assistant II, Pu Lab**
Boston Children's Hospital
- Research Data Analyst**
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