SCIENCE IN BOSTON

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Publications of the Week

Reverse-Engineering Placebo Analgesia

First Authors: Bin Chen and Nitsan Goldstein | Senior Authors: Vincent Prevosto and Fan Wang *(pictured)*
Current Biology | McGovern Institute for Brain Research

Placebo analgesia is a widely observed clinical phenomenon. Establishing a robust mouse model of placebo analgesia is needed. However, previous studies failed to observe consistent placebo effects in rodent models of chronic pain. Researchers wanted to investigate whether strong placebo analgesia can be reverse engineered using general-anesthesia-activated neurons in the central amygdala that can potently suppress pain. **Abstract | Press Release**

Intercellular Nanotube-Mediated Mitochondrial Transfer Enhances T Cell Metabolic Fitness and Antitumor Efficacy

First Author: Jeremy Baldwin | Senior Authors: Shiladitya Sengupta *(pictured)* and Luca Gattinoni
Cell | Harvard Medical School, Brigham and Women's Hospital, and MIT

Mitochondrial loss and dysfunction drive T cell exhaustion, representing major barriers to successful T cell-based immunotherapies. Here, researchers describe an innovative platform to supply exogenous mitochondria to T cells, overcoming these limitations. They found that bone marrow stromal cells establish nanotubular connections with T cells and leverage these intercellular highways to transplant stromal cell mitochondria into $CD8^+$ T cells. **Abstract | Press Release**

View All Publications

Awards

Meet the 2024 Amon Award Winners

Koch Institute

The Koch Institute at MIT has announced the winners of the 2024 Angelika Amon Young Scientist Award: Anna Uzonyi *(pictured, left)* and Lukas Teoman Henneberg *(right)*. The prize was established in 2021 to recognize graduate students in the life sciences or biomedical research who embody Dr. Amon's infectious enthusiasm for discovery science. **Read More**

Alanna Carey Receives NIH Blueprint and BRAIN Initiative D-SPAN Award

Boston University Biology

Alanna Carey *(pictured)*, a PhD student in the Chen Lab, has received the National Institutes of Health (NIH) Blueprint and BRAIN Initiative Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) Award. This award supports a defined pathway across career stages for outstanding graduate students who are from diverse backgrounds. **Read More**

Freeman and Sharpe Receive Hamburg Award from National Academy of Medicine for Discoveries Leading to New, Effective Immunotherapies

Dana-Farber Cancer Institute

The National Academy of Medicine announced that Dr. Gordon Freeman *(pictured)* and Arlene Sharpe are the recipients of the 2024 David and Beatrix Hamburg Award for Advances in Biomedical Research and Clinical Medicine. This is in recognition of their breakthrough work identifying costimulatory pathways that control the activation and inhibition of T cell immune responses, leading to new, effective immunotherapies. **Read More**

Neil Singh Bedi Honored with a Zuckerman Fellowship

Boston University Chobanian & Avedisian School of Medicine

Neil Singh Bedi *(pictured)*, a medical student at Boston University Chobanian & Avedisian School of Medicine, has been awarded a Zuckerman Fellowship through the Center for Public Leadership at the Harvard Kennedy School. Zuckerman Fellows are selected on the basis of outstanding leadership ability with potential for significant impact to advance the public good, commitment to public service, intellectual distinction, and academic achievement.**Read More**

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Local News

Finding Some Stability in Adaptable Brains

McGovern Institute

One of the brain's most celebrated qualities is its adaptability. At the same time, it requires stability to keep knowledge and memories intact. Dr. Mark Harnett *(pictured)* and his team at MIT's McGovern Institute for Brain Research have shown how individual neurons can contribute to both parts of this vital duality in a recent publication in the journal *Cell Reports*. **Read More**

Jason Kim Discovery Could Lead to Potential Treatment for Metabolic Liver Disease

UMass Chan Medical School

Research from the lab of Dr. Jason Kim *(pictured)* identified a novel pathway in the progression of metabolic liver disease that could be targeted for potential therapies. The findings describe how the circulating protein interferon-γ, which is higher in people with obesity, causes inflammation. By blocking this pathway, Dr. Kim and colleagues were able to protect animal models from developing metabolic dysfunction-associated steatohepatitis. **Read More**

Groundbreaking Study on Lymph Node Excision Advances HIV Cure Research

Ragon Institute

Researchers in Dr. Zaza Ndhlovu's *(pictured)* lab have completed a significant study on the safety and practicality of lymph node excisions for HIV cure research in South Africa. The study provides critical insights into how these procedures can advance our understanding of HIV reservoirs, which are groups of HIV-infected cells that can remain latent within the body for months or years. **Read More**

First Narrow-Spectrum Antibiotic Successfully Eliminates *Fusobacterium nucleatum* in Breakthrough Study at the ADA Forsyth Institute

ADA Forsyth

The ADA Forsyth Institute and Flightpath Biosciences Inc have announced a groundbreaking discovery in the fight against severe gum disease and related systemic conditions. In a recent study, ADA Forsyth scientists found a first-in-class, small molecule, narrow-spectrum antibiotic that successfully eradicates *Fusobacterium nucleatum* without harming the oral or gut microbiomes. **Read More**

Starting a Fluorescent Biosensor Revolution

Wyss Institute

A collaborative research team led by Dr. George Church *(pictured)* at the Wyss Institute has developed a synthetic biology platform to streamline the discovery, molecular evolution, and cost-effective manufacturing of small and highly efficient nanosensors. These nanosensors can detect specific proteins, peptides, and small molecules by increasing their fluorescence up to 100-fold in less than a second. **Read More**

Korro Bio Announces Collaboration with Novo Nordisk to Develop Two Therapeutic Candidates

Globe Newswire

Boston-based Korro Bio announced a collaboration with Novo Nordisk to treat cardiometabolic diseases. The collaboration brings together Novo Nordisk's deep cardiometabolic disease understanding and drug development experience with Korro's proprietary platform to develop RNA editing product candidates for two undisclosed targets. **Read More**

Finding a Possible Genetic Treatment for Rare Arrhythmias

Boston Children's Hospital

Variants in a gene that plays a key role in heart function can cause potentially life-threatening arrhythmia syndromes known as calmodulinopathy. Calmodulinopathy is rare and causes arrhythmias that are poorly treated by current options. Researchers at Boston Children's may have found a promising custom genetic treatment: antisense oligonucleotides that deplete the disease-causing gene product. **Read More**

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Upcoming Events in Boston

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
September 30 5:30 PM	**Connect the DOTs** Dillon's
October 7 - 9 7:00 AM	**Digital Health & AI Innovation Summit** Boston Marriott Cambridge
October 8 - 10 8:00 AM	**Executive Decision Making for Pharma & Biotech 2024** Royal Sonesta Boston

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Science Jobs in Boston

Scientific Advisor, Buenrostro Lab
Broad Institute

Postdoctoral Fellow, Mineralized Tissue Biology and Bioengineering
ADA Forsyth Institute

Assistant Teaching Professor, Nanomedicine
Northeastern University

Research Student
Beth Israel Deaconess Medical Center

Postdoctoral Fellow
MIT

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