

Publications of the Week
pH-Gated Succinate Secretion Regulates Muscle Remodeling in Response to Exercise

First Author: Anita Reddy | Senior Author: Edward Chouchani (pictured) | Cell | Dana-Farber and Harvard Medical School



In response to skeletal muscle contraction during exercise, paracrine factors coordinate tissue remodeling, which underlies this healthy adaptation. The authors describe a pH-sensing metabolite signal that initiates muscle remodeling upon exercise. In mice and humans, exercising skeletal muscle releases the mitochondrial metabolite succinate into the local interstitium and circulation. [Profile](#) | [Abstract](#)

HDAC6 Mediates an Aggresome-Like Mechanism for NLRP3 and Pyrin Inflammasome Activation

First Author: Venkat Giri Magupalli (pictured, back row, sixth from left) | Senior Author: Hao Wu (front, fifth from left) | Science | Harvard Medical School and Boston Children's Hospital



Inflammasome complexes are formed in response to pathogen-associated molecules. The authors report that for NLRP3- and pyrin-mediated inflammasomes, their assembly and downstream functions occur at the microtubule-organizing center (MTOC). This process requires the dynein adaptor HDAC6, which is also a central player in aggresome formation and autophagosomal degradation at the MTOC. [Profile](#) | [Abstract](#)

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Awards
Anne Klibanski Visiting Scholar Awards Celebrate Women in Science

Massachusetts General Hospital



During the Celebration of Science, thirty-six extraordinary women were honored as Anne Klibanski Visiting Scholars. The award is presented to women faculty clinicians, educators, researchers and postdocs at Mass General who have shown exceptional promise as leaders in their field and whose careers would specifically benefit from speaking, mentoring and networking opportunities at the national or international level. [Read More](#)

Ibrahim Cissé, Ruth Lehmann, and Silvi Rouskin Awarded 2021 Vilcek Prize

MIT News



Associate Professor of Physics and Biology Dr. Ibrahim Cissé (pictured, left), Professor of Biology and Whitehead Institute Director Dr. Ruth Lehmann (center), and Andria and Paul Healy Whitehead Fellow Dr. Silvi Rouskin (right) have been awarded 2021 Vilcek Prizes. The prizes honor the outstanding contributions of immigrants in the sciences and the arts. [Read More](#)

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Local News
Pain Neurons Activate Immune Cells, Opening New Treatment Possibilities

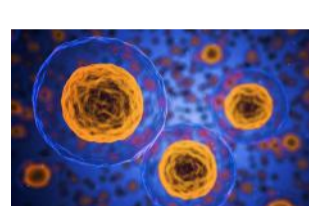
Boston Children's Hospital



For a long time, pain and inflammation were thought to be two separate biological responses. But new research by Boston Children's Hospital and international collaborators suggests that the same sensory neurons that produce pain also trigger inflammation. And they do so by activating cells of the immune system, a relationship never described before. [Read More](#)

How Cells Build Organisms

Harvard Medical School



Researchers at Harvard Medical School and the Institute of Science and Technology Austria have discovered a key control mechanism that cells use to self-organize in early embryonic development. The findings shed light on a process fundamental to multicellular life and open new avenues for improved tissue and organ engineering strategies. [Read More](#)

From Gut to Brain: UMMS Probes Link between Microbiome and Cognitive Functioning in Alzheimer's Patients

UMass Medical School



UMass Medical School (UMMS) researchers have been awarded a \$3.3 million, four-year National Institute on Aging grant to explore new understanding of how the gut microbiome influences cognitive functioning among elders living with Alzheimer's disease. The new study will go beyond previous research by bridging microbiome associations with Alzheimer's disease with the mechanism of causality. [Read More](#)

Waters Opens Cambridge, MA, Collaboration Lab

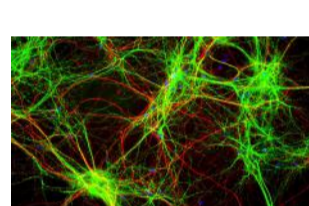
Genetic Engineering & Biotechnology News



Waters says the need to accelerate collaborative research wrought by the COVID-19 pandemic has prompted the company to open Immerse™ Cambridge, a new laboratory in Cambridge, MA, where it plans to team up with academic, research, and industry partners. The new lab is the first of several Immerse Innovation and Research Labs set to be established worldwide by the specialty measurement company. [Read More](#)

New Neuron Type Discovered Only in Primate Brains

Broad Institute



Researchers from the Broad's Stanley Center for Psychiatric Research have reported several key differences in the brains of ferrets, mice, nonhuman primates, and humans, all focused on a type of neuron called interneurons. Most surprisingly, the team found a new type of interneuron only in primates, located in a part of the brain called the striatum, which is associated with Huntington's disease and potentially schizophrenia. [Read More](#)

Intestinal Bacteria Could Give Doctors an Objective Test for Chronic Lyme Disease

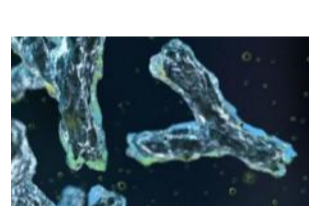
News@Northeastern



Chronic Lyme disease is incredibly hard to diagnose because symptoms vary greatly, and there is currently no biological test to detect the disease. Now, Dr. Kim Lewis, University Distinguished Professor of Biology and Director of the Antimicrobial Discovery Center at Northeastern, has proposed a new way to objectively diagnose this elusive disease by analyzing the microbes in a patient's gut. [Read More](#)

VirScan Offers New Insights into COVID-19 Antibody Response

Brigham and Women's Hospital



A tool designed to detect viral history in a drop of blood has gotten an upgrade in the age of COVID-19. Investigators from Brigham and Women's Hospital and Harvard Medical School have used VirScan, a technology that can determine which of more than 1,000 different viruses have infected a person, to detect evidence of infection from coronaviruses, including SARS-CoV-2. [Read More](#)

Fierce Biotech Announces the 2020 Fierce 15

Fierce Biotech



Fierce Biotech has announced its winning Fierce 15 CEOs. This year, they chose from a diverse range of those fighting COVID, as well as those fighting longer term plagues against our biology. Seven of the fifteen winners are based in the Greater Boston area. Check out the article to learn about the work being done by the winning companies. [Read More](#)

Pranitha Vangala and Colleagues Build Predictive Model of Gene Expression

UMass Medical School



Dr. Pranitha Vangala (pictured) is lead author of a study in which she and colleagues present a predictive model of gene expression. "The goal of the study is to understand how gene expression regulation works. Gene expression is regulated by elements known as promoters and enhancers," said Dr. Vangala, a postdoc in the lab of Dr. Manuel Garber at UMass Medical School. [Read More](#)

Platelet Profiles Could Enhance Care for Bleeding Disorders, Cardiovascular Disease, Cancer

Boston Children's Hospital



The trillion-odd platelets in our blood are best known for controlling bleeding, helping clots form when we sustain an injury. But platelets can also go rogue. As Dr. Ben Spurgeon, a fellow in Boston Children's Center for Platelet Research Studies, has been finding, not all platelets are alike — they carry different "portfolios" of molecular markers that reflect their different roles and could potentially predict disease. [Read More](#)

In Deadly COVID-19 Lung Inflammation, BU Researchers Discover a Culprit in NFkB Pathway

The Brink



As the coronavirus pandemic ripped through through the United States in March, scientists at Boston University's (BU) National Emerging Infectious Diseases Laboratories and the Center for Regenerative Medicine dropped all other research to focus exclusively on the SARS-CoV-2 virus. They joined forces to develop the most relevant research model possible for understanding how the virus impacts the lungs, engineering living, "breathing" human lung cells from stem cells for the task. [Read More](#)

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Interesting Articles
Personalized Medicine Is the Future of Health Care. Two Trump Administration Proposals Could Stymie It

STAT News



Two recent moves by the Trump administration threaten to turn back the clock on biomedical progress in personalized medicine, which most Americans want, by locking us into a one-size-fits-all world. In an executive order issued in mid-September, President Trump proclaimed his intention to cut drug prices by promising to tie what Medicare pays for prescription medications to their generally lower costs in other countries. These costs are most often based on crude one-size-fits-all health technology assessments. [Read More](#)

Three Questions: Nancy Hopkins on Improving Gender Equality in Academia

MIT News



Over the course of her exceptional career, Amgen Professor of Biology Emerita Nancy Hopkins (pictured) has overturned assumptions and defied expectations at the lab bench and beyond. Her experiences in male-dominated fields and institutions led her to catalyze an investigation that evolved into the groundbreaking 1999 public report on the status of women at MIT. She sat down to discuss what has changed for women in academia in the last two decades — and what hasn't. [Read More](#)

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Upcoming Events in Boston

October 6 10:00 AM	MIT Healthcare, Pharmaceuticals, and Sciences Career Fair Online
October 7 12:00 PM	Webinar: Launching New Drugs in the Time of COVID-19 Online
October 8 10:00 AM	Boston University Research Open House 2020: Advancing Research in Times of Change & Virtual Office Hours Online
October 9 12:00 PM	Data Analytics, Science & Technology Fair Online
October 14 4:00 PM	Virtual Grand Slam Science Communication Event Online

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