

Publications of the Week

Acute Pharmacological Degradation of Helios Destabilizes Regulatory T Cells

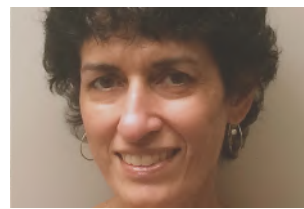
First Authors: Eric Wang, Alyssa Verano, Radoslaw Nowak, and J. Christine Yuan
 Senior Authors: Nathanael Gray and Eric Fischer *(pictured)*
 Nature Chemical Biology | Dana-Farber Cancer Institute and Harvard Medical School



The zinc-finger transcription factor Helios is critical for maintaining the identity, anergic phenotype, and suppressive activity of regulatory T (Treg) cells. The authors report the structure-guided development of small molecules that recruit the E3 ubiquitin ligase substrate receptor cereblon to Helios, thereby promoting its degradation. [Abstract](#)

Inhibitory Affinity Modulation of FcγRIIa Ligand Binding by Glycosphingolipids by Inside-Out Signaling

First Author: Koshu Okubo | Senior Author: Tanya Mayadas *(pictured)*
 Cell Reports | Brigham and Women's Hospital and Harvard Medical School



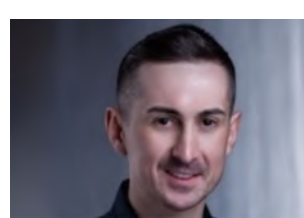
The interaction of the human FcγRIIa with immune complexes (ICs) promotes neutrophil activation and thus must be tightly controlled to avoid damage to healthy tissue. The authors demonstrate that a fungal-derived soluble β-1,3/1,6-glucan binds to the glycosphingolipid long-chain lactosylceramide to reduce FcγRIIa-mediated recruitment to immobilized ICs under flow, a process requiring high-affinity FcγRIIa-immunoglobulin G interactions. [Abstract](#)

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Awards

Awards and Recognitions: June 2021

Harvard Medical School



Dr. Benjamin Spurgeon *(pictured)*, Harvard Medical School Research Fellow in Pediatrics at Boston Children's Hospital, was named a Marylou Ingram Scholar by the International Society for Advancement of Cytometry. The program is designed to enhance scientific and leadership experiences of young scientists in the field of cytometry. Dr. Spurgeon develops new tests for the analysis of platelets in health and disease. [Read More](#)

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Local News

Dana-Farber Scientists Team with British Researchers to Accelerate Development of Blood Test for Ovarian Cancer

Dana-Farber Cancer Institute



A new partnership between researchers at Dana-Farber Cancer Institute and University College London (UCL) may prove decisive in the quest to develop the first blood test for early-stage ovarian cancer. "The biobank at UCL has one of the world's largest and most comprehensively curated collections of blood samples for the study of women's cancers," says Dr. Dipanjan Chowdhury *(pictured)*. [Read More](#)

Levels of Certain Blood Proteins May Explain Why Some People Derive More Benefits from Exercise than Others

Beth Israel Deaconess Medical Center



The mechanistic links between physical fitness and overall health are not fully understood, nor are the reasons why the same exercise can have different effects in different people. "While groups as a whole benefit from exercise, the variability in responses between any two individuals undergoing the very same exercise regimen is actually quite striking," said Dr. Robert Gerszten *(pictured)*. [Read More](#)

COVID-19's Gut Connection

Harvard Medical School



Led by Dr. Lael Yonker *(pictured)*, Harvard Medical School Assistant Professor of Pediatrics and pediatric pulmonologist, a team of researchers determined that viral particles remaining in the gut long after an initial SARS-CoV-2 infection can travel into the bloodstream, instigating a condition called multisystem inflammatory syndrome in children. [Read More](#)

Serendipitous Discovery Could Lead to Treatment for Strokes, Cardiac Arrest

Massachusetts General Hospital



In a surprising discovery, researchers at Massachusetts General Hospital identified a mechanism that protects the brain from the effects of hypoxia, a potentially lethal deprivation of oxygen. This serendipitous finding, which they report in *Nature Communications*, could aid in the development of therapies for strokes, as well as brain injury that can result from cardiac arrest, among other conditions. [Read More](#)

All in the Timing

Whitehead Institute



Researchers in Whitehead Institute Director Dr. Ruth Lehmann's *(pictured)* lab wanted to better understand the different groups of cells involved in creating the gonads — the reproductive organs — and in guiding development of the germ cells, the set of cells that become eggs and sperm. Lehmann lab postdoc Dr. Torsten Banisch showed that an unexpected type of cell, the swarm cells, relay a hormone signal to the germ cell precursors which prompts them to differentiate. [Read More](#)

New Software Promotes Inclusivity in Genetic Research and Strengthens Study Results

Massachusetts General Hospital



Dr. Elizabeth Atkinson *(pictured)* and her team are working to make genetic research more inclusive with the development of a new statistical framework and software package called Tractor, which is designed to include individuals of mixed ancestry. They found their method was able to discover new associations that would have been missed in traditional genome-wide association studies while simultaneously boosting the strength of a study's results. [Read More](#)

Antibodies Produced in the Lung Can Prevent Respiratory Infections from Becoming Severe

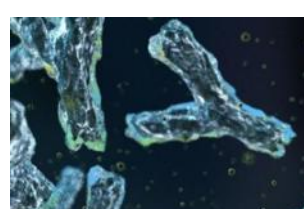
Boston University School of Medicine



Only a small subset of people who get a lung infection go on to become very sick, yet who will become severely ill or why is unclear. Researchers now have discovered that after recovering from a respiratory infection, new cells get deposited in lung tissue, persist there, and then become antibody-secreting cells very quickly if the lungs later get reinfected by something similar. [Read More](#)

Addgene Receives NIH BRAIN Initiative Grant to Create Open-Access Recombinant Antibody Resource

Addgene



Unfortunately, the vast majority of antibodies are supplied with no sequence information, leading to problems with reproducibility and an inability to improve upon these critical research tools. Addgene has recently received a grant from the National Institutes of Health (NIH) that will address this problem. The grant is part of the NIH's Brain Research through Advancing Innovative Neurotechnologies® (BRAIN) Initiative. [Read More](#)

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📅 Upcoming Events in Boston

June 8
1:00 PM

Frontiers in Biostatistics: The Use of External Control Data for Predictions and Interim Analyses in Clinical Trials
Online

June 9
7:00 PM

Biotechnology and the Future of Medicine
Online

June 9
7:00 PM

Nobel Laureate Dr. Shinya Yamanaka Presents "Recent Progress in iPS Cell Research and Application"
Online

June 10
11:30 AM

Careers in Biology Education Panel
Online

June 10
12:00 PM

The Wave Summit
Online

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🏢 Science Jobs in Boston

Biology Research Specialist and Lab Manager

Constellation Pharmaceuticals

Research Scientist, Harvard Chan Research Center on Causes and Prevention of Cardiovascular Disease

Harvard University

Microbiology Scientist I

Joynt Bio

ADME/Toxicology

Fusion Pharmaceuticals

Research Technician, Biology

Dana-Farber Cancer Institute

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