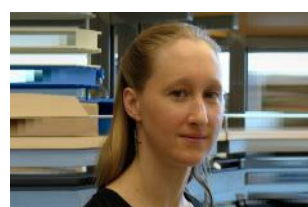


Publications of the Week

A Microbial Metabolite Remodels the Gut-Liver Axis following Bariatric Surgery

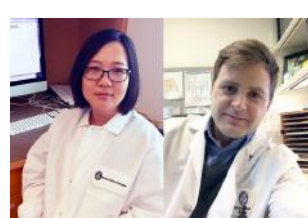
First Author: Snehal Chaudhari | Senior Author: A. Sloan Devlin *(pictured)*
Cell Host Microbe | The Blavatnik Institute and Brigham and Women's Hospital



Bariatric surgery is the most effective treatment for type 2 diabetes and is associated with changes in gut metabolites. Previous work uncovered a gut-restricted TGR5 agonist with anti-diabetic properties — cholic acid-7-sulfate (CA7S) — that is elevated following sleeve gastrectomy (SG). The authors elucidated a microbiome-dependent pathway by which SG increases CA7S production. [Abstract](#)

Human Endothelial Colony-Forming Cells Provide Trophic Support for Pluripotent Stem Cell-Derived Cardiomyocytes via Distinctively High Expression of Neuregulin-1

First Author: Xuechong Hong *(pictured, left)* | Senior Author: Juan Melero-Martin *(right)*
Angiogenesis | Boston Children's Hospital and Harvard Medical School



The authors showed that vascular networks generated with human endothelial colony-forming cells exhibited robust paracrine support for human pluripotent stem cell-derived cardiomyocytes (iCMs), significantly improving protection against drug-induced cardiac injury and enhancing engraftment at ectopic and orthotopic sites. In contrast, iCM support was notably absent in grafts with vessels lined by mature-endothelial cells. [Abstract](#)

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Awards

Allon Klein and Aviv Regev Receive the Inaugural James Prize in Science and Technology Integration

National Academy of Sciences



Dr. Allon Klein *(pictured, right)* from Harvard Medical School, and Dr. Aviv Regev *(left)* from Genentech Research and Early Development, will receive the inaugural James Prize in Science and Technology Integration. Klein and Regev are known for their advancement of molecular biology, engineering, statistics and computer science, and their integrated use in research. [Read More](#)

Harvard Medical School Awards & Recognitions: January 2021

Harvard Medical School (HMS)



Dr. Yohei Tomita *(pictured)*, HMS Research Fellow in Ophthalmology at Boston Children's, has received the Association for Research in Vision and Ophthalmology's 2021 Bert M. Glaser, MD Award for Innovative Research in Retina. See which other HMS faculty, staff, and students received honors in January 2021. [Read More](#)

[View All Awards](#)

Local News

Discovery of 'Adolescent' Skeletal Stem Cells Might Someday Help Prevent Osteoporosis

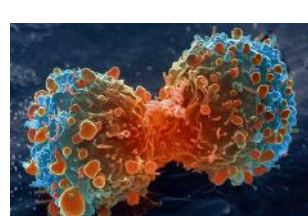
AlphaMed Press via Medical Xpress



A new study from scientists at Boston Children's Hospital and the Harvard Stem Cell Institute reveals a unique population of skeletal stem cells (SSCs) that function during the transitional period between rapid bone growth and bone maintenance. This discovery provides an opportunity to determine whether alterations in the SSCs' pattern might affect bone formation, as well as helps us understand the physiological factors that regulate its timing. [Read More](#)

Why Cancer Cells Waste So Much Energy

MIT News



In the 1920s, German chemist Otto Warburg discovered that cancer cells don't metabolize sugar the same way that healthy cells usually do. Since then, scientists have tried to figure out why cancer cells use this alternative pathway, which is much less efficient. MIT biologists have now found a possible answer to this longstanding question. [Read More](#)

Scientists Uncover New Path Toward Treating a Rare but Deadly Neurologic Condition

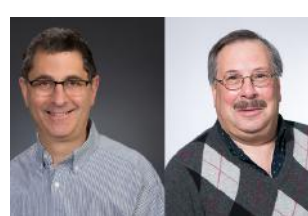
Massachusetts General Hospital



Studies with a popular laboratory model, the nematode *Caenorhabditis elegans*, have revealed a possible therapeutic avenue for a rare but deadly condition in which children are born without the ability to make molybdenum cofactor (Moco) on their own. This new work from Massachusetts General Hospital reveals that nematodes genetically engineered to be Moco-deficient can take up Moco that is attached to several types of proteins. [Read More](#)

UMass Medical School Develops 'Paraprobiotic' to Fight Parasitic Roundworms in Humans

UMass Med News



A potential therapeutic against hookworms is being developed by Drs. Gary Ostroff *(pictured, right)*, Ralfi Aroian *(left)* and colleagues at UMass Medical School and other institutions. The therapeutic is an engineered bacterium, containing crystal compound 5B inactivated with a food-grade oil that can be used to safely treat hookworms in animal models. [Read More](#)

Understanding Antibodies to Avoid Pandemics

MIT News



Dr. Pamela Björkman *(pictured)*, the David Baltimore Professor of Biology and Bioengineering at Caltech, wants to understand how antibodies like the ones elicited by the COVID-19 vaccines target the SARS-CoV-2 virus. She hopes this understanding will guide treatment strategies and help design vaccines against future pandemics. She shared her lab's work during the MIT Department of Biology's Independent Activities Period seminar series. [Read More](#)

COVID-19 Vaccine Experts Talk Lessons Learned, Challenges Ahead

Harvard Medical School



As the first anniversary of the Massachusetts Consortium on Pathogen Readiness, or MassCPR, approaches, *Harvard Medicine News* spoke with the co-leads of its vaccine working group, Drs. Dan Barouch and Adrea Carfi, about the striking accomplishments in COVID-19 vaccine development, what we've learned so far, and what lies ahead. [Read More](#)

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Upcoming Events in Boston

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January 25 12:00 PM	Research Connection Live: Virtual Edition Online
January 26 2:00 PM	Alternate Careers in Biology: Venture Capital in Biotech — What It Is and How to Get Involved Online
January 26 4:00 PM	Immunity from Principles to Practice: Microbiome and Virome Control of Host Immunity Online
January 26 5:00 PM	Science For All Seasons Online

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