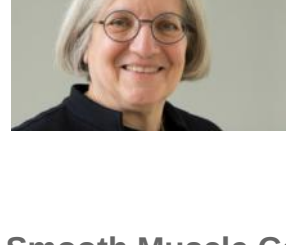


### Publications of the Week

## Potent Acyl-CoA Synthetase 10 Inhibitors Kill *Plasmodium falciparum* by Disrupting Triglyceride Formation

First Author: Selina Bopp | Senior Author: Dyann Wirth (*pictured*)  
 Nature Communications | Harvard T.H. Chan School of Public Health, the Broad Institute, and MIT



Identifying how small molecules act to kill malaria parasites can lead to new “chemically validated” targets. By pressuring *Plasmodium falciparum* asexual blood stage parasites with three novel structurally-unrelated antimalarial compounds, and performing whole-genome sequence analysis on resistant parasite lines, the authors identify multiple mutations in the *P. falciparum* acyl-CoA synthetase genes *PfACS10* and *PfACS11*. [Abstract](#)

## Smooth Muscle Contributes to the Development and Function of a Layered Intestinal Stem Cell Niche

First Author: Neil McCarthy | Senior Author: Ramesh Shivdasani (*pictured*)  
 Developmental Cell | Dana-Farber Cancer Institute and Harvard Medical School



Wnt and Rspodin signaling drives proliferation, and bone morphogenetic protein inhibitors impede differentiation, of intestinal stem cells (ISCs). The authors identify the mouse ISC niche as a complex, multi-layered structure that encompasses distinct mesenchymal and smooth muscle populations. In young and adult mice, diverse sub-cryptal cells provide redundant ISC-supportive factors; few of these are restricted to single cell types. [Abstract](#)

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### Local News

## The Ragon Institute Builds a “Palace for Pandemic Preparedness”

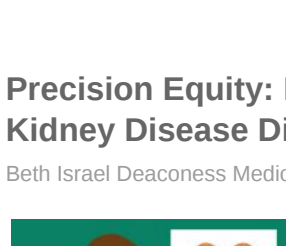
Ragon Institute



On January 19, 2023, faculty and staff of the Ragon Institute gathered in Kendall Square to celebrate a significant milestone — the “topping off” of their new building. “It is exhilarating to see the building taking shape,” said Ragon Institute Director Dr. Bruce Walker (*pictured*). “This will be a palace for pandemic preparedness and allow us to expand our vision to harness the immune system to prevent and cure diseases.” [Read More](#)

## Whitehead Institute Mentoring Is Multifaceted

Whitehead Institute



The Whitehead Institute invests an extraordinary amount of time and energy in activities that are often described, broadly, as “mentoring.” Dr. Kara McKinley (*pictured*), Assistant Professor of Stem Cell and Regenerative Biology at Harvard University, offers a prime example: She completed her doctoral research in institute member Dr. Iain Cheeseman’s lab in 2016 and continues to draw on that experience in leading her own research team. [Read More](#)

## Precision Equity: BIDMC Scientists Pave Way for Potential Cure for Severe Kidney Disease Disproportionately Affecting Black Individuals

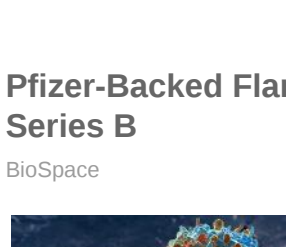
Beth Israel Deaconess Medical Center (BIDMC)



An investigational molecule has been shown to improve kidney function in people with one form of chronic kidney disease in a small phase II clinical trial. The molecule targets two gene variants that increase the risk of developing kidney disease in people who carry them. These two gene variants — carried by 12 percent of Americans with recent African ancestry — were identified by BIDMC’s Drs. Martin Pollak and David Freidman. [Read More](#)

## Research Spotlight: Systemic Immune Modulation by Stereotactic Radiotherapy in Early-Stage Lung Cancer

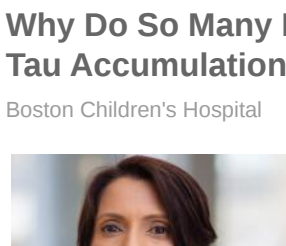
Massachusetts General Hospital



Dr. Dan Duda (*pictured*), a researcher and the Director of Translational Research in Gastrointestinal Radiation Oncology at the Edwin L. Steele Laboratories at Massachusetts General Hospital, is the senior author of an article in the journal *NPJ Precision Oncology*, “Systemic immune modulation by stereotactic radiotherapy in early-stage lung cancer”. He aimed to determine the effect of ablative hypofractionated radiotherapy for lung cancer on effector lymphocyte subsets in patients’ blood. [Read More](#)

## Pfizer-Backed Flare Seeks Transcription Factor Therapies with \$123M Series B

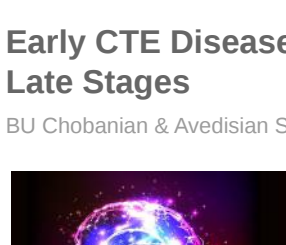
BioSpace



Flare Therapeutics closed an oversubscribed Series B funding round counting \$123 million in earnings, which it will use to advance FX-909, its lead precision oncology asset in urothelial cancer. Pfizer Ventures and GordonMD Global Investments LP led the financing. FX-909 is Flare’s investigational small-molecule inhibitor targeting the PPARG transcription factor. [Read More](#)

## Why Do So Many Dementia Treatments Fail? Questioning Mouse Models of Tau Accumulation

Boston Children’s Hospital



Many recent dementia drug candidates target the tau protein, which aggregates and forms tangles in patients’ brain tissue and is involved in 75 percent of all dementias. While tau-targeting drugs have looked promising in mouse models, they’ve failed in clinical trials. A recent study led by Kathrin Wenger, a PhD student in the lab of Dr. Judith Steen (*pictured*) at Boston Children’s, suggests one reason: The available tau-based mouse models don’t correspond well with tau pathology in late-stage, symptomatic human dementia. [Read More](#)

## Early CTE Disease Process Mechanistically Different than What Occurs in Late Stages

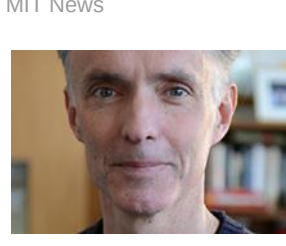
BU Chobanian & Avedisian School of Medicine



Millions of people, including athletes who play contact sports, members of the military, and victims of domestic violence, are exposed to repetitive head impacts, which is the primary risk factor for developing chronic traumatic encephalopathy (CTE). The brains of people who die with CTE are marked by the accumulation of a protein called tau, the same protein found to aggregate in Alzheimer’s disease brain. [Read More](#)

## #WhyScience Q&A: A Molecular Biologist Builds Genome-Editing Tools to Treat Genetic Diseases

Broad Institute



After watching Jurassic Park in fifth grade, Dr. Greg Newby (*pictured*) wrote an essay for school about his aspiration to become a genetic engineer and bring back the dinosaurs. But instead of creating prehistoric creatures, he became a different kind of genetic engineer — one who develops genome editing technologies to treat genetic diseases. [Read More](#)

## A New Control Switch Could Make RNA Therapies Easier to Program

MIT News



Using an RNA sensor, MIT engineers have designed a new way to trigger cells to turn on a synthetic gene. Their approach could make it possible to create targeted therapies for cancer and other diseases, by ensuring that synthetic genes are activated only in specific cells. “With this system, we could target very specific disease cells and tissues, which opens up the possibility of identifying cancer cells and then delivering highly potent therapeutics,” says Dr. James Collins (*pictured*). [Read More](#)

## Meet a Whitehead Postdoc: Sheri Grill

Whitehead Institute



Dr. Sheri Grill (*pictured*) is a postdoc in Whitehead Institute Director Dr. Ruth Lehmann’s lab studying germ cells, the cells that become eggs and sperm. Germ cells are really the only cells that are or have the potential to be truly totipotent, which is when a single cell is capable of becoming any other cell — or every other cell — in our body. She’s studying how germ cells transcribe the correct genes that give them their identity. [Read More](#)

## Immunotherapy’s Next Act

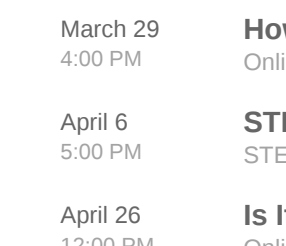
Wyss Institute



A team in the lab of Dr. Dave Mooney (*pictured*) has developed a technique that allows them to metabolically “tag” the surface of T cells with cytokines, which enhance the anti-tumor activity of immune cells. This technique avoids the negative side effects that prevent cytokines from being delivered systemically, and effectively treated both solid and liquid tumors in mice as an add-on to CAR T cell therapy. [Read More](#)

## Researchers Identify Key Source of T Cell “Exhaustion”

Dana-Farber Cancer Institute



A discovery reported online in the journal *Molecular Cell* suggests that targeting a specialized group of proteins in the nuclei of our cells, called mSWI/SNF complexes, either by gene-cutting technologies such as CRISPR or with targeted drugs, could reduce exhaustion and give CAR T cells the staying power to take on cancer. “CAR T cells and other therapies made from living cells have enormous potential in treating cancer and a range of other diseases,” says the study’s senior author, Dr. Cigall Kadoch (*pictured*). [Read More](#)

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### Upcoming Events in Boston

March 28 8:30 AM	<b>Pfizer Pharma Day 2023</b> MassBioHub
March 29 4:00 PM	<b>How Small RNAs Regulate Genes – And Could Treat Disease</b> Online
April 6 5:00 PM	<b>STEMCELL Technologies Career Open House</b> STEMCELL Technologies
April 26 12:00 PM	<b>Is It Possible to Bioprint Human Hearts?</b> Online
April 29 9:00 AM	<b>Microbial Sciences 20<sup>th</sup> Annual Symposium</b> Northwest Labs

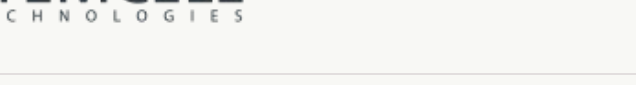
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### Science Jobs in Boston

<b>Senior Scientist, Oligonucleotide Chemistry</b> Korro Bio	<b>Research Assistant II, Lab</b> Harvard University	<b>Research Associate II/Engineer II, Lab Automation</b> Tessera Therapeutics	<b>Scientist I, <i>In Vivo</i> Pharmacology</b> AbbVie	<b>Principal Scientist/Associate Director, Pharmacokinetics-Pharmacodynamics</b> Mersana Therapeutics
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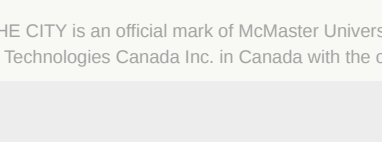
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### Free Wallchart: Human Cell Frequencies in Blood-Related Sources


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