

Publications of the Week

The Flight Response Impairs Cytoprotective Mechanisms by Activating the Insulin Pathway

First Author: María José De Rosa | Senior Author: Mark Alkema *(pictured)*
Nature | UMass Medical School



An animal's stress response requires different adaptive strategies depending on the nature and duration of the stressor. The authors show that repeated induction of the flight response in *Caenorhabditis elegans* shortens lifespan and inhibits conserved cytoprotective mechanisms. The flight response activates neurons that release tyramine, an invertebrate analogue of adrenaline and noradrenaline.

[Abstract](#)

Liquid versus Tissue Biopsy for Detecting Acquired Resistance and Tumor Heterogeneity in Gastrointestinal Cancers

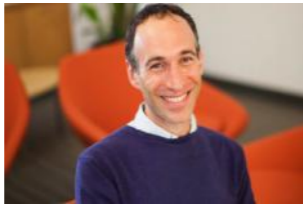
First Author: Aparna Parikh | Senior Author: Gad Getz *(pictured)*
Nature Medicine | Broad Institute



During cancer therapy, tumor heterogeneity can drive the evolution of multiple tumor subclones harboring unique resistance mechanisms in an individual patient. In this paper, direct comparison of postprogression cfDNA versus tumor biopsy, in 42 patients, revealed that cfDNA more frequently identified clinically relevant resistance alterations and multiple resistance mechanisms, detecting resistance alterations not found in the matched tumor biopsy in 78% of cases. [Abstract](#)

The Formation of Human Populations in South and Central Asia

First Author: Vagheesh Narasimhan | Senior Author: David Reich *(pictured)*
Science | Broad Institute and Harvard Medical School



Ancient DNA has allowed us to begin tracing the history of human movements across the globe. The authors identified a complex pattern of human migrations and admixture events in South and Central Asia by performing genetic analysis of more than 500 people who lived over the past 8000 years. They established key phases in the population prehistory of Eurasia, including the spread of farming peoples from the Near East, with movements both westward and eastward.

[Abstract](#)

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Awards

A Silly-Sounding Prize for Some Serious Science

Harvard Gazette



Harvard-trained doctor Dr. David Sachar and Brigham and Women's Hospital's pathologist and senior lecturer Dr. Noel Rose *(pictured)* have been recognized for their contributions to medicine with this year's Golden Goose Award. Sachar was recognized for experiments with frog skin that led to the development of oral rehydration therapy, while Rose was honored for using a rabbit to prove that an autoimmune response can cause a human disease. [Read More](#)

Boston College's Phil Landrigan, M.D., Honored for Pioneering Work in Children's Health

Boston College



The director of the University's Global Observatory on Pollution and Health will be recognized at the Rodale Institute's Organic Pioneer Awards. Global Observatory on Pollution and Health Director Dr. Philip Landrigan *(pictured)*, will be honored for his pioneering work in the health of children and the effects of toxic chemicals on their brains and nervous systems. [Read More](#)

[View All Awards](#)

Local News

How Breast Cancer Uses Exosomes to Metastasize to the Brain

Boston Children's Hospital



Metastasizing breast cancers typically seek out the bones, lung, and brain. Brain metastases are especially dangerous; many women survive for less than a year after diagnosis. Those questions led PhD candidate Golnaz Morad *(pictured, right)* and her mentor Dr. Marsha Moses *(pictured, left)*, to conduct an in-depth investigation of exosomes, also known as extracellular vesicles or EVs, and their role in breast-to-brain metastasis. [Read More](#)

Trio of Studies Show that Gene Mutation, Tissue Location and Signaling Networks Drive Cancer Incidence and Severity

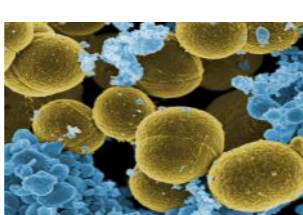
BIDMC News



The *KRAS* gene is one of the commonly mutated genes in cancer. More than 40 percent of colorectal cancers have a mutated *KRAS* gene, or oncogene, that is at least partially responsible for cancer development. Using mouse models of cancer, Dr. Kevin Haigis' *(pictured)* lab showed for the first time that cancer disease incidence and severity are influenced by both the specific type of *KRAS* mutation as well as by the tissue in which the mutation is located. [Read More](#)

Wyss Institute and Miraki Innovation Unveil BOA Biomedical to Reduce Sepsis Deaths

Wyss Institute



The Wyss Institute for Biologically Inspired Engineering at Harvard University and Miraki Innovation have unveiled BOA Biomedical, a company that aims to solve the global healthcare demand for a device that rapidly diagnoses and treats infectious diseases, focusing specifically on sepsis and antibiotic-resistant infections. BOA is a portfolio company founded by Miraki that plans to commercialize technology developed at the Wyss Institute. [Read More](#)

VBI Vaccines Announces Phase 2a Clinical Evaluation of VBI-1901 Cancer Vaccine Candidate in Combination with GSK's AS01B Adjuvant System in Recurrent Glioblastoma Patients

VBI Vaccines



VBI Vaccines, a commercial-stage biopharmaceutical company developing next-generation infectious disease and immuno-oncology vaccines, has announced a collaboration with GlaxoSmithKline (GSK) to clinically evaluate the combination of VBI-1901, VBI's cancer vaccine immunotherapeutic, with GSK's proprietary AS01B adjuvant system. [Read More](#)

Doctors Have Put Human Livers in Suspended Animation

MIT Review



Supercooling organs could save the lives of people on transplant waiting lists. Researchers say they've successfully plunged human livers to subzero temperatures and then warmed them back up. The "supercooled" organs were still in good shape after 27 hours, adding nearly a day to how long livers can last outside the body. The research is part of a wider effort to learn how to keep organs operational outside the body for longer periods of time. [Read More](#)

Early Trouble: Study Maps Genetics of Early Progression in Tuberculosis

Harvard Medical School



While the vast majority of the 1.8 billion people infected with the tuberculosis bacterium never experience active disease, an estimated 5 to 15 percent do develop full-blown infections—roughly half of them within 18 months of exposure. Now, a study led by Dr. Soumya Raychaudhuri *(pictured)* gives an answer. Some of the risk for early disease progression is driven by several gene variants, at least one of which controls key immune functions. [Read More](#)

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Upcoming Events in Boston

- September 17 10:00 AM **Mass Cytometry Day**
Merck Research Laboratories
- September 19 8:30 AM **Third Annual "Chemical Biology in The HUB" Symposium**
Merck Research Laboratories
- September 19 12:00 PM **Fall Career Fair**
Worcester Polytechnic Institute, Sports & Recreation Center
- September 20 11:30 AM **Lunch & Learn: New Exosome Isolation Method and Its Applications**
FUJIFILM Diosynth Cambridge Collaboration Center
- September 26 4:30 PM **Protecting Intellectual Property in Pharmaceuticals**
Biogen

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- Statistical Programmer**
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- Stem Cell Transplant - Cell Therapy**
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