



Publications of the Week

Vitamin B₁₂ Produced by Gut Bacteria Modulates Cholinergic Signalling

First Author: Woo Kyu Kang | Senior Author: Mark Alkema (pictured)
Nature Cell Biology | University of Massachusetts Chan Medical School



A growing body of evidence indicates that gut microbiota influence brain function and behaviour. However, the molecular basis of how gut bacteria modulate host nervous system function is largely unknown. Here, researchers show that vitamin B₁₂-producing bacteria that colonize the intestine can modulate excitatory cholinergic signaling and behavior in the host *Caenorhabditis elegans*. [Abstract](#) | [Press Release](#)

Novel *Bacteroides vulgatus* Strain Protects Against Gluten-Induced Break of Human Celiac Gut Epithelial Homeostasis: A Pre-Clinical Proof-of-Concept Study

First Author: Tina Tran (pictured) | Senior Author: Alessio Fasano
Pediatric Research | Massachusetts General Hospital and Harvard Medical School



Researchers have identified a decreased abundance of microbial species known to have a potential anti-inflammatory, protective effect in subjects that developed celiac disease compared to those who did not. Researchers aim to confirm the potential protective role of one of these species, namely *Bacteroides vulgatus*, and to mechanistically establish the effect of bacterial bioproducts on gluten-dependent changes on human gut epithelial functions. [Abstract](#) | [Press Release](#)

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Awards

Drs. Daniel Anderson and Ana Jaklenec Elected to the National Academy of Inventors

Koch Institute



The National Academy of Inventors (NAI) announced the election of more than 160 people to their 2023 class of fellows, including two members of the MIT Koch Institute for Integrative Cancer Research, Drs. Daniel Anderson (pictured, left) and Ana Jaklenec (right). Since its inception in 2012, the NAI Fellows program has grown to include 1,898 exceptional researchers and innovators, who hold over 63,000 US patents and 13,000 licensed technologies. [Read More](#)

Dr. Pasi Jänne Receives the American Cancer Society 2024 Medal of Honor Award

Dana-Farber Cancer Institute



The American Cancer Society awarded the 2024 Medal of Honor to Dr. Pasi Jänne. The Medal of Honor is the American Cancer Society's most prestigious award bestowed to distinguished individuals or foundations who have made valuable contributions in the categories of basic research, cancer control, clinical research, and philanthropy. [Read More](#)

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Local News

Using AI, MIT Researchers Identify a New Class of Antibiotic Candidates

MIT News



MIT researchers have discovered a class of compounds that can kill a drug-resistant bacterium that causes more than 10,000 deaths in the US every year. The study appears in *Nature* where the researchers showed that these compounds could kill methicillin-resistant *Staphylococcus aureus* (MRSA) grown in a lab dish and in two mouse models of MRSA infection. [Read More](#)

What Can Super-Healing Species Teach Us About Regeneration?

MIT Biology



When Dr. Albert Almada (pictured) embarks on a new project, he always considers two criteria instilled in him during his time as a graduate student in the Department of Biology at MIT. "If you want to make a big discovery, you have to approach it from a unique perspective — a unique angle," Dr. Almada says. "You also have to be willing to dive into the unknown and go to the leading edge of your field." [Read More](#)

Novel Compound Protects Against Infection by Virus That Causes COVID-19, Preliminary Studies Show

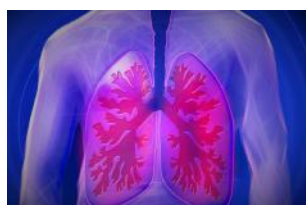
Dana-Farber Cancer Institute



Compounds that obstruct the "landing gear" of a range of harmful viruses can successfully protect against infection by the virus that causes COVID-19, a study led by Dr. Loren Walensky (pictured) at the Dana-Farber Cancer Institute shows. Based on the findings, researchers have launched a human clinical trial of one such compound made by chemically stabilizing a key coronavirus peptide. [Read More](#)

Inhalable Sensors Could Enable Early Lung Cancer Detection

MIT News



Using a new technology developed at MIT, diagnosing lung cancer could become as easy as inhaling nanoparticle sensors and then taking a urine test that reveals whether a tumor is present. The new diagnostic is based on nanosensors that can be delivered by an inhaler or a nebulizer. This could make lung cancer screening more accessible worldwide. [Read More](#)

How Bats Can Reveal the Secrets of Our Immune System – Part 2 of the Schmidt Lab Series

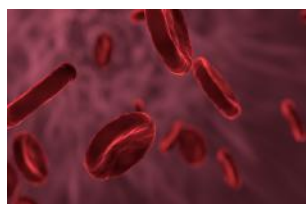
Ragon Institute



Bats can carry some of the most dangerous viruses known to humans without appearing to succumb to them. From SARS-like coronaviruses to Ebola viruses, bats can carry them while suffering no ill effects themselves. How they do so remains an open question that the Schmidt Lab (pictured), along with their collaborators, hope to address with their research. [Read More](#)

Vertex, Bluebird Detail Rollout Plans for Competing Sickle-Cell Gene Therapies

Boston Business Journal



Vertex and bluebird bio, the companies behind the competing sickle-cell treatments approved in December, have provided new details in their plans to bring the treatments to patients in 2024. Bluebird said 26 patients started treatment in 2023 across its commercial portfolio. The company expects its first patient start for Lyfgenia in Q1 2024, and to hit between 85 to 105 patient starts in 2024 across its three approved therapies. [Read More](#)

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Upcoming Events in Boston

January 16 1:00 PM	Methods for the Analysis of Data with Missing Values Online
January 17 4:30 PM	Biomedical Informatics Entrepreneurs Salon Gordon Hall
January 18 1:30 PM	Ethical Considerations of Access to Investigational Medicines Online
January 19 - 21 8:00 AM	3rd Cell Therapy Potency Assay Summit The Colonnade Hotel
January 23 5:30 PM	Social Video Boot Camp: Crafting Compelling Content for Public Health Francois-Xavier Bagnoud Building

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Science Jobs in Boston

Scientist/Senior Scientist, Mammalian Synthetic Biology

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Beth Israel Lahey Deaconess Medical Center

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Eurofins Scientific

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