

Publications of the Week

Metagenomic Profiling Pipelines Improve Taxonomic Classification for 16S Amplicon Sequencing Data

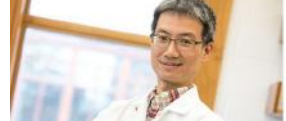
First Authors: Aubrey Odom (*pictured, right*) and Tyler Faits (*left*) | Senior Author: Evan Johnson
Scientific Reports | Boston University



Most experiments studying bacterial microbiomes rely on the PCR amplification of all or part of the gene for the 16S rRNA subunit, which serves as a biomarker for identifying and quantifying the various taxa present in a microbiome sample. Researchers used 16S sequencing data from mock bacterial communities to evaluate the sensitivity and specificity of several bioinformatics pipelines and genomic reference libraries used for microbiome analyses. [Abstract](#)

Glucose Oxidation-Dependent Survival of Activated B Cells Provides a Putative Novel Therapeutic Target for Lupus Treatment

First Authors: John Wilson, Jian Wei, and Andrea Daamen | Senior Author: Chih-Hao Chang (*pictured*)
iScience | Tufts University



Researchers discover that in lupus, activated B cells, including germinal center B (GCB) cells, have remarkably high glycolytic requirement for survival over T cell populations. These results reveal that glycolysis-dependent activated B and GCB cells, especially those expressing B cell maturation antigen, are potentially key lupus mediators, and could be targeted to improve disease outcomes. [Abstract](#)

A Novel Molecular Class That Recruits HDAC/MECP2 Complexes to PU.1 Motifs Reduces Neuroinflammation

First Author: William Ravenius | Senior Authors: Elizabeta Gjoneska and Li-Huei Tsai (*pictured*)
Journal of Experimental Medicine | Broad Institute and MIT



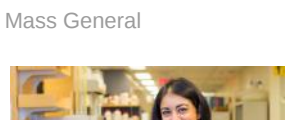
SPI1/PU.1 is a transcription factor and its reduced expression is associated with delayed onset of Alzheimer's disease (AD). Researchers analyzed single-cell transcriptomic datasets from microglia of human AD patients and found an enrichment of PU.1-binding motifs in the differentially expressed genes. This study uncovers a novel class of anti-inflammatory molecules with therapeutic potential for neurodegenerative disorders. [Abstract](#)

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Awards

ALS Finding a Cure Awards a \$400,000 Grant to a Team of Researchers from Massachusetts General Hospital

Mass General



ALS Finding a Cure awards a \$400,000 grant to a team of researchers, including Dr. Ghazaleh Sadri-Vakili (*pictured*) from Massachusetts General Hospital (MGH), to establish a panel of blood biomarkers that can detect and indicate the specific ALS disease progression. The team is an international collaboration between MGH, Nemdx Inc., and the International Centre for Genetic Engineering and Biotechnology. [Read More](#)

Pancreatic Cancer Research in Vaccines, Immune-Based Therapies and KRAS Inhibition Funded by the PanCAN

Dana-Farber Cancer Institute



The Pancreatic Cancer Action Network (PanCAN), a leading non-profit in the fight against pancreatic cancer, has awarded Dana-Farber Cancer Institute researchers Dr. William Freed-Pastor (*pictured, right*) and Julien Dilly (*left*) research grants of \$250,000 and \$150,000, respectively over a 2-year period, to support their crucial work in the field of pancreatic cancer research. [Read More](#)

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Local News

Final Overall Study Analysis Continues to Show Benefit of Sacituzumab Govitecan in Advanced HR+ Breast Cancer

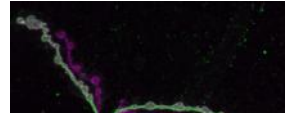
Dana-Farber Cancer Institute



A novel antibody-drug conjugate continues to demonstrate superior benefit for patients with HR+, HER2- metastatic breast cancer when compared to standard chemotherapy, according to a new study in *The Lancet*. "These data reinforce that sacituzumab govitecan is leading to improvements in both progression- free and overall survival and that patients saw benefit irrespective of their tumor's Trop-2 expression," says Sara Tolaney (*pictured*), the study's senior author. [Read More](#)

Study Connects Neural Gene Expression Differences to Functional Distinctions

MIT News



Figuring out how hundreds of different kinds of brain cells develop from their unique expression of thousands of genes promises to not only advance understanding of how the brain works in health, but also what goes wrong in disease. A new MIT study that precisely probes this "molecular logic" in two neuron types of the *Drosophila* fruit fly shows that even similar cells push and pull many levers to develop distinct functions. [Read More](#)

Rapid DNA Sequencing Yields Timely Answers for Infant Epilepsy

Boston Children's Hospital



Treating children with epilepsy has traditionally been a matter of trial and error. In the one-third of patients for whom the drugs do not work and seizures continue, doctors consider brain surgery — if it can be done safely. Early in her career, Dr. Ann Poduri (*pictured*) wondered: What could be learned from the brain tissue removed during surgery? Could it yield a better genetic understanding of epilepsy? [Read More](#)

Stem Cell Research Sheds Light on New 'Molecular Road' to Alzheimer's Disease

Brigham and Women's Hospital



Recently, the *SORL1* gene has received increased attention since variations in this gene have been associated with both early and late onset Alzheimer's disease (AD). However, little is known about how damage to *SORL1* leads to disease. Using stem cells from patients with AD, investigators — including Dr. Tracy Young-Pearse (*pictured*) — sought to uncover more. [Read More](#)

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Interesting Articles

US Extends Science Pact with China: What It Means for Research

Nature



The US government has extended for six months a key symbolic agreement to cooperate with China in science and technology. The agreement was due to expire on August 27, 2023, and its short-term extension has revived researchers' hopes that the 44-year-old pact will continue. The new extension stops short of a full renewal, which some scientists worry is now in jeopardy. [Read More](#)

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Upcoming Events in Boston

Sept 6 - 8 9:00 AM	8th International Conference on Accelerating Biopharmaceutical Development Royal Sonesta Boston
Sept 7 - 10 7:30 AM	Hypertension Scientific Sessions 2023 Sheraton Boston Hotel
Sept 18 - 21 9:30 AM	BioTech Week Boston Convention and Exhibition Center
Sept 20 - 21 10:00 AM	BIOMEdevice Boston 2023 Boston Convention and Exhibition Center
Sept 27 - 30 6:00 AM	AACR Special Conference: Pancreatic Cancer Westin Copley Place

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Other Science Jobs in Boston

Scientific Inside Sales Representative, Cell Culture
STEMCELL Technologies

Cell & Gene Therapy Specialist
STEMCELL Technologies

Research Technician II
Massachusetts General Hospital

Research Associate, Next Generation Sequencing
GC Therapeutics

Bioinformatics Scientist
Boston Children's Hospital

Scientist, Molecular Biology
Sonata Therapeutics

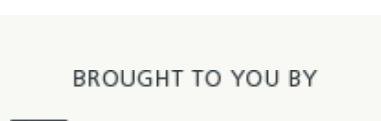
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