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Publications of the Week

Neurotensin Is an Anti-Thermogenic Peptide Produced by Lymphatic Endothelial Cells

First Authors: Jin Li and Erwei Li | Senior Author: Evan Rosen *(pictured)*
Cell Metabolism | Beth Israel Deaconess Medical Center, Harvard Medical School, Dana-Farber Cancer Institute, and the Broad Institute

The lymphatic vasculature plays important roles in the physiology of the organs in which it resides, though a clear mechanistic understanding of how this crosstalk is mediated is lacking. The authors performed single-cell transcriptional profiling of human and mouse adipose tissue and found that lymphatic endothelial cells highly express neurotensin. **Profile | Abstract**

Genes with Specificity for Expression in the Round Cell Layer of the Growth Plate Are Enriched in Genomewide Association Study (GWAS) of Human Height

First Author: Nora Renthal | Senior Author: Joel Hirschhorn *(pictured)*
Journal of Bone and Mineral Research | Boston Children's Hospital, Harvard Medical School, Broad Institute, and Massachusetts General Hospital

Growth plate (epiphyseal) chondrocytes are key determinants of height. To connect the genetics of height and growth plate biology, the authors analyzed GWAS data through the lens of gene expression in the three dissected layers of murine newborn tibial growth plate. Their findings newly implicate genes highlighted by GWASs of height and specifically expressed in the round cell layer as being potentially important regulators of skeletal biology. **Abstract**

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Local News

Zhen, Samuel, and Lichtman Labs Generate Complete Synaptic Census of the *C. elegans* Brain as It Grows and Rewires Itself

Harvard University Molecular and Cellular Biology (MCB)

At the cellular level, the layout of the nervous system in any given *C. elegans* specimen is much the same as any other: Every adult *C. elegans* has 302 neurons — arranged in the same pattern. Researchers from Dr. Mei Zhen's lab in Toronto, Dr. Aravinthan Samuel's lab in the Physics Department, and the Lichtman Lab in MCB wanted to know whether this similarity extends to individual synapses and teamed up to find out more. **Read More**

Sanofi Doubles Down on mRNA with $3.2B Translate Bio Acquisition

Genetic Engineering & Biotechnology News

Sanofi is acquiring its COVID-19 vaccine collaboration partner Translate Bio for approximately $3.2 billion, in a deal that addresses the buyer's desire to advance mRNA vaccine technology beyond the candidates it is co-developing for protection from SARS-CoV-2 and seasonal influenza. Translate Bio is partnering with Sanofi in developing MRT5500, an mRNA vaccine based on Translate's proprietary MRT™ platform. **Read More**

A More Complete Molecular Picture of Lung Squamous Cell Carcinoma Comes into View

Broad Institute

The search for effective new therapies for a lung cancer subtype called lung squamous cell carcinoma has largely come up short. "Patients with lung squamous cell cancer have very limited therapeutic options, and even modest success in understanding this disease could make a difference in people's lives," said Dr. Shankha Satpathy *(pictured)*, a Group Leader in the Broad Institute's Proteomics Team. **Read More**

Unusual Labmates: Fruit Flies

Whitehead Institute

On a sunny summer morning in Cambridge, Massachusetts, Mariyah Saiduddin walked into a room and was met by the sight of thousands of fruit flies. For most people, this would be time to call an exterminator. However, this room full of flies is part of Whitehead Institute Director Dr. Ruth Lehmann's lab, where fruit flies are seen not as pests but as valuable research tools — and are safely contained in vials. **Read More**

No Lyme Vaccine Yet, but Antibody Shot Could Provide Seasonal Immunity

University of Massachusetts Medical School News

Lyme disease has become an insidious epidemic in the United States. Caused by bacteria transmitted through the bite of an infected tick, it can lead to heart problems, meningitis, or arthritis if left untreated. It is the most common tick-borne illness in the United States, and the Centers for Disease Control and Prevention estimates that around 475,000 people likely contract the disease each year. **Read More**

Study Pairs Two Forms of Immunotherapy in Patients with Advanced Kidney Cancer

Dana-Farber Cancer Institute

Stymied and disoriented. That's one way to describe the state of the immune system in some patients with cancer. T cells revved up to attack tumors are turned into an army of loiterers. Cells keenly attuned to signals of infection or disease fail to pick up the faint notes of cancer. A clinical trial led by Dana-Farber researchers including Dr. David Braun *(pictured)* is addressing both of these issues in patients who have undergone surgery for kidney cancer. **Read More**

Researchers Find Fat Burning Molecule in Mice

Beth Israel Deaconess Medical Center

Linked to serious health problems including cancer, diabetes and cardiovascular disease, obesity affects more than a third of adults in the United States. Presently, there are few safe and effective nonsurgical therapeutic interventions available to patients with obesity. Now, a multi-disciplinary team of researchers has demonstrated that a metabolic regulatory molecule called Them1 prevents fat burning in cells by blocking access to their fuel source. **Read More**

Researchers Develop Machine Learning Methods to Accurately Identify, Characterize Metabolism-Disrupting Chemicals

Boston University School of Medicine

A growing number of environmental pollutants (organotins in pesticides, phthalates in plastics, flame retardants in furniture) activate fat-forming pathways and enhance weight gain through white-fat accumulation. "The prevalence of obesity has reached epidemic proportions, and changes in diet and the modern lifestyle cannot fully account for it. Thus, the accurate prediction of the adverse effects of chemical exposure is an urgent goal," said Dr. Jennifer Schlezinger *(pictured)*. **Read More**

Rewiring Cell Division to Make Eggs and Sperm

Whitehead Institute

To create eggs and sperm, cells must rewire the process of cell division. When the protein Meikin is not properly cleaved before meiosis II, chromosomes do not align properly, causing problems in cell division. New research from Whitehead Institute member Dr. Iain Cheeseman *(pictured)* and collaborators demonstrates how Meikin is elegantly controlled, and sheds light on how the protein acts to serve multiple roles over different stages of meiosis. **Read More**

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August 12 8:00 PM	**Financing Life Science Ventures – What It Means to Founders and Investors** Online
August 18 12:00 PM	**Use Social Media to Promote Your Department/Center/Lab** Online
September 9 12:00 PM	**Topics in Bioengineering: Khuluod Al Jamal** Online
September 13 4:30 PM	**The Next Normal: Global Health** Online
September 17 8:30 AM	**Engineering the Next Wave of Immunotherapy** Online

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