

Publications of the Week
Treg Cells Maintain Selective Access to IL-2 and Immune Homeostasis Despite Substantially Reduced CD25 Function

 First Author: Erika Hayes (*pictured, right*) | Senior Author: Daniel Campbell (*left*)
 bioRxiv | Benaroya Research Institute at Virginia Mason and UW Medicine


The precise role of interleukin-2 (IL-2) in the maintenance and function of regulatory T (Treg) cells in the adult peripheral immune system remains unclear. Despite substantially reduced IL-2 sensitivity, Treg cells maintained selective IL-2 signaling and prevented immune dysregulation following treatment with the inhibitory anti-CD25 antibody PC61, even when CD25^{hi} Treg cells were depleted.

[Profile](#) | [Abstract](#)
Spliceosomal Disruption of the Non-Canonical BAF Complex in Cancer

 First Author: Daichi Inoue | Senior Author: Robert Bradley (*pictured*)
 Nature | Fred Hutch and UW


The authors integrated pan-cancer splicing analyses with a positive-enrichment CRISPR screen to prioritize splicing alterations that promote tumorigenesis. They report that diverse *SF3B1* mutations converged on repression of BRD9, which is a core component of the recently described non-canonical BAF chromatin-remodeling complex that also contains GLTSCR1 and GLTSCR1L. [Abstract](#)

Expansion of Primitive Human Hematopoietic Stem Cells by Culture in a Zwitterionic Hydrogel

 First Author: Tao Bai | Senior Author: Colleen Delaney (*pictured*)
 Nature Medicine | Fred Hutch and UW


Using 3D culture of human hematopoietic stem and progenitor cells (HSPCs) in a degradable zwitterionic hydrogel, the authors achieved substantial expansion of phenotypically primitive CD34⁺ cord blood and bone-marrow-derived HSPCs. This culture system led to a 73-fold increase in long-term hematopoietic stem cell frequency, and the expanded HSPCs were capable of hematopoietic reconstitution for at least 24 weeks in immunocompromised mice. [Abstract](#)

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Awards
Dr. M. Elizabeth 'Betz' Halloran Elected to the National Academy of Medicine

Fred Hutch



Dr. Elizabeth Halloran (*pictured*), Head of the Fred Hutch-based Center for Inference & Dynamics of Infectious Diseases, has been elected to the National Academy of Medicine, a high honor in the fields of health and medicine. Halloran is one of the world's top experts in statistical methods for evaluating vaccines and vaccination strategies to stop outbreaks of deadly infectious diseases. [Read More](#)

UW's Ashleigh Theberge Receives Packard Fellowship for Research on Cell Communication Signals

UW News



Dr. Ashleigh Theberge (*pictured*), an Assistant Professor of Chemistry at UW, has been named a 2019 Packard Fellow for her research on cell signaling. Every year since 1988, the David and Lucile Packard Foundation has awarded Packard Fellowships in Science and Engineering to early-career scientists to pursue the types of innovative projects that often fall outside the purview of traditional sources of funding. [Read More](#)

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Local News
Scientists Discover Skin Keeps Time Independent of the Brain

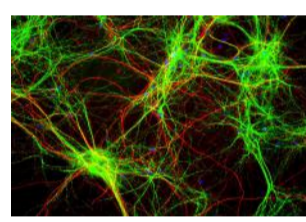
UW Medicine



Opsins are the most abundant proteins in the retina. These light-sensing photopigments are responsible for color vision and vision in dim light. New research from investigators at the UW School of Medicine has found that a type of opsin known as neuropsin is expressed in the hair follicles of mice, and synchronize the skin's circadian clock to the light-dark cycle, independent of the eyes or brain. [Read More](#)

Scientists Find Mouse Neurons that Are Unique to Male or Female Brains

Allen Institute for Brain Science



A team of scientists at the Allen Institute who were trying to identify neurons that drive instinctive behaviors in mice have uncovered something surprising on the way: brain cell types that exist only in female or male animals. Other researchers have previously found genes that are switched on, or expressed, exclusively in male or female brains, but this is the first demonstration of sex-specific neuron types in mammals. [Read More](#)

Seattle Genetics' Breast Cancer Drug Hits Mark in Pivotal Trial

Fierce Biotech



A pivotal trial of Seattle Genetics' tucatinib in patients with HER2-positive breast cancer has met its primary endpoint. The trial tested tucatinib in combination with Roche's Herceptin and Xeloda in patients with locally advanced unresectable or metastatic HER2-positive breast cancer. Seattle Genetics linked the addition of tucatinib to the backbone combination to a 46% reduction in the risk of disease progression or death. [Read More](#)

Hydrogel Uses Biology and Light to Release Proteins on Demand, Advancing Hopes for Synthetic Tissues

PNAS Journal Club



A wiggly cylinder of protein, hydrogel, and human cells, about the size of a wristwatch battery, could one day serve as a building block for synthetic tissues. The implications could be big for biological research and even organ transplants, according to recent work co-led by Dr. Cole DeForest (*pictured*) from UW. The work brings researchers a step closer to fabricating tissues as complex as the human heart, or concocting implants that release medicine on demand. [Read More](#)

The Search for Secrets of the Human Brain

Nature



There is a rise in large-scale national and international projects dedicated to understanding the human brain. Dr. Christof Koch (*pictured*) himself participates in some of those projects in his role as Chief Scientist and President of the Allen Institute for Brain Science, a non-profit research organization in Seattle, endowed by the late Microsoft co-founder Paul Allen. [Read More](#)

Alkermes Announces Clinical Collaboration with Fred Hutch for Novel Immuno-Oncology Drug Candidate ALKS 4230

Alkermes Pic.



Alkermes plc has announced that it has entered into a clinical research collaboration with Fred Hutch for ALKS 4230, Alkermes' immuno-oncology drug candidate. ALKS 4230 is a novel, engineered fusion protein designed to selectively expand tumor-killing immune cells while avoiding the activation of immunosuppressive cells by preferentially binding to the intermediate-affinity interleukin-2 receptor complex. [Read More](#)

5 Baby Boomer Biotech Influencers

BioSpace



The baby boomer generation is known for their resilience, as well as their ability to innovate, so it should be no surprise that many members of this creative group went on to develop some inspiring biotech advances. BioSpace has announced five of the top biotech influences of this generation; Drs. Maynard Olson (*pictured*) and Mary-Claire King at UW are among them. [Read More](#)

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Upcoming Events in Seattle

 October 29
6:00 PM

WIB - Seattle: Great Performances: Parallels between the Arts, Sciences, and Management
 ATLAS Workbase

 October 30
8:00 AM

BioTech & Bagels Morning Meetup
 Capital One Café

 October 30
7:00 PM

Science in the City: The Crimes of Macbeth – Witchcraft or Neuropsychology?
 Pacific Science Center

 November 6
4:00 PM

Innovations in Healthcare: Xconomy Insight Seattle Life Science Forum
 Seattle Children's Research Institute

 November 7
4:00 PM

Manipulating Microbial Communities Through Artificial Selection
 Cambia Grove

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Allen Institute for Cell Science

Staff Scientist, Molecular Mechanisms Underlying Fat-Brain Relay

Fred Hutchinson Cancer Research Center

Bioinformatics Scientist, Autoimmunity

Allen Institute for Immunology

Associate Scientist, Molecular Biology, Oncology Discovery

Bluebird Bio

Senior Research Associate, PreClinical Immuno Oncology and Cellular Therapy

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Scientific Inside Sales (Vancouver, BC)

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