

Publications of the Week
A Plant-Responsive Bacterial-Signaling System Senses an Ethanolamine Derivative

 First Author: Bruna Coutinho (*second from right*) | Senior Author: Peter Greenberg (*left*)
 Proceedings of the National Academy of Sciences | UW


A number of plant-associated bacteria possess transcription factors homologous to LuxR that respond to compounds found in plant tissue. These LuxR homologs are known to regulate virulence or symbiosis. The authors identify a compound that functions with PipR, a plant-responsive LuxR homolog from a tree root endophytic *Pseudomonas* isolate. [Profile](#) | [Abstract](#)

Activated PI3KCD Drives Innate B Cell Expansion yet Limits B Cell-Intrinsic Immune Responses

 First Author: Michelle Wray-Dutra | Senior Author: David Rawlings (*left*)
 The Journal of Experimental Medicine | Seattle Children's Research Institute and UW


Activated PI3K-delta syndrome (APDS) is an immunodeficiency caused by gain-of-function mutations in PIK3CD. This disease exhibits complex immune phenotypes including increased IgM, recurrent infection, and impaired vaccine responses. To better understand the impact of B cells in this disease, the authors generated an inducible model of the common APDS mutation (hPIK3CD-E1021K) and intercrossed these mice with B cell-specific Cre models. [Abstract](#)

Aligning Single-Cell Developmental and Reprogramming Trajectories Identifies Molecular Determinants of Myogenic Reprogramming Outcome

 First Author: Davide Cacchiarelli | Senior Author: Cole Trapnell (*pictured*)
 Cell Systems | UW


Cellular reprogramming, through manipulation of defined factors, holds great promise for large-scale production of cell types needed for use in therapy. However, most reprogramming systems are inefficient, converting only a fraction of cells to the desired state. The authors analyze MYOD-mediated reprogramming of human fibroblasts to myotubes, a well-characterized model system for direct conversion by defined factors, at pseudotemporal resolution using single-cell RNA-seq. [Abstract](#)

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Awards
Washington's Andy Hill Cancer Research Endowment Awards \$1.5M to Three Fred Hutch Researchers

Fred Hutchinson Cancer Research Center



Drs. Evan Newell (*left*), Geoffrey Hill (*middle*), and Thomas Kensler (*right*) at the Fred Hutchinson Cancer Research Center recently were awarded a total of \$1.5 million from the Andy Hill Cancer Research Endowment, a public-private partnership that supports cancer research in Washington. Until recently, the fund was known as the Andy Hill Cancer Research Endowment Fund. [Read More](#)

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Local News
New Diagnostic Test for Leprosy Being Developed

Infectious Disease Research Institute (IDRI)



Before an infectious disease can be treated, it must be detected. Key attributes of successful diagnostic tests include speed and cost, but it is also critical that they are easy to administer – particularly in remote areas that do not have ready access to labs or health care facilities. HDT Biotech Corporation is teaming up with IDRI to develop a cost-effective test with enhanced sensitivity for detecting infection with *M. leprae*, the bacterium that causes leprosy. [Read More](#)

Study Cracks Open the Secrets of the Cancer-Causing BRCA1 Gene

Stat News



By deliberately causing every possible mutation of the kind that occurs most commonly in BRCA1, and tracking how cells growing in lab dishes respond, scientists at UW have determined which mutations are pathogenic and which are benign. They also made that call for more than 2,000 variants whose health consequences have been unknown. [Read More](#)

Pilot Study Identifies Strain of Bacteria as Chief Risk Factor for Stomach Cancer

Fred Hutchinson Cancer Research Center



Researchers at Fred Hutch have found a specific strain of *Helicobacter pylori* strongly correlated with stomach cancer. The research could eventually be used to shape treatment and screening strategies for patients. The team ran tests on 49 patients' stomach endoscopy and stool samples, looking for *H. pylori* with a variant of the *cagA* gene, known as EPIYA D. They found 91 percent of the patients with the EPIYA D strain also had cancer. [Read More](#)

DNA Testing of Illegal Ivory Seized by Law Enforcement Links Multiple Ivory Shipments to Same Dealers

UW News



An international team led by scientists at UW reports that DNA test results of large ivory seizures made by law enforcement have linked multiple ivory shipments, over the three-year period when this trafficking reached its peak, to the same network of dealers operating out of a handful of African ports. The researchers linked these ivory shipments together after developing a rigorous sorting and DNA testing regimen for tusks in different ivory shipments. [Read More](#)

Squelching Ovarian Cancer: The Not-So-Silent Killer

Fred Hutchinson Cancer Research Center



Ovarian cancer's stealth nature is one of its biggest challenges. That's why research on symptoms and the symptom-screening tool developed by Fred Hutch's Dr. Robyn Andersen (*pictured*) and Dr. Barbara Goff of the Hutch and UW has been a key contribution. Its creation led to guidelines for assessing symptoms used by physicians. [Read More](#)

Silverback Therapeutics Raises \$37.5M, Unveils Tech that Targets Therapies to Disease Locations

Geek Wire



Silverback Therapeutics, a stealthy biotechnology startup, has given the first glimpse of its technology, and has announced an additional \$37.5 million in funding, bringing its Series A round to a total of \$47.5 million. It is developing a pipeline of therapies for cancer and fibrosis that are delivered systematically, like an oral pill or IV injection, but only target parts of the body affected by disease. [Read More](#)

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Upcoming Events in Seattle

- October 6**
 7:00 PM **In for the Hutch**
 Fremont Studios
- October 9**
 7:00 PM **Science in the City: Tuberculosis Treatment**
 Pacific Science Center
- October 10**
 8:30 AM **From the Laboratory to Leadership**
 Agora Conference Center
- October 11 - 13**
 12:00 PM **Regenerative Rehabilitation Symposium**
 Woodmark Hotel & Spa
- October 22 - 24**
 8:00 AM **3rd Seattle Symposium on Health Care Data Analytics**
 Hyatt Olive 8

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- Post-doctoral Scientist, Non-Viral Delivery Formulation**
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