

Publications of the Week

Prospective Mapping of Viral Mutations that Escape Antibodies Used to Treat COVID-19

First Author: Tyler Starr *(pictured)* | Senior Author: Jesse Bloom
 Science | Fred Hutch and UW



Antibodies are a potential therapy for SARS-CoV-2, but the risk of the virus evolving to escape them remains unclear. The authors mapped how all mutations to SARS-CoV-2's receptor-binding domain affect binding by the antibodies in the REGN-COV2 cocktail and the antibody LY-CoV016. The complete maps uncover a single amino-acid mutation that fully escapes the REGN-COV2 cocktail, which consists of two antibodies targeting distinct structural epitopes.

[Abstract](#) | [Press Release](#)

Survey of Spiking in the Mouse Visual System Reveals Functional Hierarchy

First Author: Joshua Siegle | Senior Author: Christof Koch *(pictured)*
 Nature | Allen Institute for Brain Science



The authors describe a large, open dataset — part of the Allen Brain Observatory — that surveys spiking from tens of thousands of units in six cortical and two thalamic regions in the brains of mice responding to a battery of visual stimuli. Using cross-correlation analysis, they revealed that the organization of inter-area functional connectivity during visual stimulation mirrors the anatomical hierarchy from the Allen Mouse Brain Connectivity Atlas. [Abstract](#) | [Press Release](#)

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Awards

Three Biomedical Innovations Win WE-REACH Go-to-Market Awards

Institute of Translational Health Sciences (ITHS)



The Washington Entrepreneurial Research Evaluation and Commercialization Hub (WE-REACH) has announced three new awards to expedite early-stage product development for promising biomedical innovations. Dr. Taylor Sawyer *(pictured)*, Associate Professor of Pediatrics at UW and Seattle Children's, is one of the recipients. His team plans to design a device for neonatal intubation without blocking airflow. [Read More](#)

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Local News

How to Reroute a Broken Neural Circuit

Fred Hutch



Led by Fred Hutch neuroscientist Dr. Jihong Bai *(pictured)*, new research has shown that in nematodes, researcher-created connections between nerve cells can form new routes to bypass neural damage by turning minor paths of neural information flow into major roads. The work also found that the new synapses could be used to amplify weak signals and strengthen the damaged circuit even when it wasn't bypassed. [Read More](#)

The Second-Generation COVID Vaccines Are Coming

Scientific American



There are hundreds of new COVID vaccines under development—including many with new mechanisms of action—that could prove to be effective and cheaper and easier to distribute. One of these is UW Institute for Protein Design's vaccine, delivered by spherical "nanoparticles" shaped like soccer balls. Synthetically manufactured receptor binding domain proteins are affixed to the nanoparticles in regular arrays. [Read More](#)

Meet the New 2021 KL2 Cohort

Institute of Translational Health Sciences (ITHS)



After reviewing many impressive applications, ITHS has selected its new cohort of scholars for the 2021 ITHS KL2 Multidisciplinary Clinical Research Career Development Program. The KL2 program is a career development program for early-career researchers and is sponsored by the National Center for Advancing Translational Sciences, a center of the National Institutes of Health. [Read More](#)

Sana Biotechnology Files to Go Public, Looks to Cure Disease by Modifying Genes in the Body

Life Science Washington



Sana Biotechnology has filed for an initial public offering (IPO) less than three years after it was founded. It is the latest life science company out of Seattle to go public, following successful IPOs by Athira Pharma and Silverback Therapeutics in 2020. The company is currently developing gene and cell therapies that could be used to combat a variety of diseases, and previously raised more than \$700 million in venture capital. [Read More](#)

Fighting Racial Inequity by Funding Black Scientists

Institute for Stem Cell & Regenerative Medicine (ISCRM)



Representatives from a network of women deans, chairs and distinguished faculty in biomedical engineering are calling upon the National Institutes of Health and other funding agencies to address disparities in allocating support to Black researchers. ISCRM faculty member Kelly Stevens *(pictured, left)* and Omalola Eniola-Adefeso *(right)* are the lead and senior author of the *Cell* paper, respectively. [Read More](#)

Seattle Biotech Startup Split Biosciences Raises \$7M, Changes Name to Parse Biosciences

GeekWire



Parse Biosciences has announced a \$7 million investment round to support growth of its single cell sequencing technology. The Seattle biotech startup sells a "Whole Transcriptome Kit" that can profile up to 100,000 cells in parallel across up to 48 samples. Parse describes the kit as the "most scalable single cell RNA-seq solution on the market." There are more than 40 labs using the kit as part of their research workflow. [Read More](#)

Drs. Anthony Fauci and Lee Hood Talk COVID-19, Vaccines, Future of Research and More

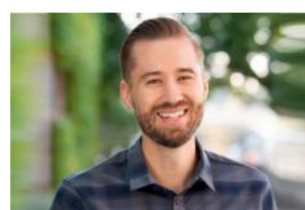
Institute for Systems Biology (ISB)



ISB's Dr. Lee Hood *(pictured, right)* presented the Precision Medicine World Conference Luminary Award to Dr. Anthony Fauci *(left)*, and the two renowned scientists engaged in an interesting hour-long conversation across a number of topics, including the importance of basic research, the extraordinary speed of COVID research, the efficacy of mRNA vaccines on COVID-19 and the technology's promise for creating effective vaccines for other diseases. [Read More](#)

AbSci Purchases San Diego Artificial Intelligence Startup Denovium

Life Science Washington



Washington-based AbSci, led by CEO Sean McClain *(pictured)*, has announced that it purchased San Diego startup Denovium, which specializes in deep-learning artificial intelligence. The acquisition supports the development of AbSci's "Protein Printing" technology, which discovers and manufactures complex biological molecules such as antibodies and insulin. [Read More](#)

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Upcoming Events in Seattle

- February 2 12:30 PM **UW Winter Job & Internship Fair**
Online
- February 3 12:00 PM **Biostatistics Seminar Series: "Nonparametric Array Learning and Its Applications in Neuroimaging"**
Online
- February 3 5:00 PM **Chiari Malformation Webinar**
Online
- February 4 5:00 PM **Genitourinary Oncology Seminar Series**
Online
- February 23 9:00 AM **Progress on the Pandemic: A Year of Tackling COVID-19**
Online

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Science Jobs in Seattle

- Research Scientist IV**
Seattle Children's
- Clinical Trials Manager, Oncology Clinical Operations**
Gilead
- Scientist I, Bio-Realistic Modeling of Reconstructed Cortical Tissue**
Allen Institute for Brain Science
- Senior Scientist, Predictive Sciences**
Bristol Myers Squibb
- Senior Director, Clinical Manufacturing and Resources**
Fred Hutch

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