Volume 2.49: December 16, 2019

Publications of the Week

Overcoming Steric Restrictions of VRC01 HIV-1 Neutralizing Antibodies through Immunization

First Author: Rachael Parks | Senior Author: Leonidas Stamatatos *(pictured)*
Cell Reports | Fred Hutch and UW

Broadly HIV-1 neutralizing VRC01 class antibodies target the CD4-binding site of Env. The authors reported on a two-step immunization scheme that led to the maturation of VRC01-like antibodies capable of accommodating the N276 glycan and displaying autologous tier 2 neutralizing activities. Their results are relevant to clinical trials aiming to elicit VRC01 antibodies. **Profile | Abstract**

Durable Preservation of Antiviral Antibodies after CD19-Directed Chimeric Antigen Receptor T-Cell Immunotherapy

First Author: Joshua Hill | Senior Author: Cameron Turtle *(pictured)*
Blood Advances | UW and Fred Hutch

The long-term effects of CD19-targeted chimeric antigen receptor–modified T-cell immunotherapy (CD19-CARTx) for B-cell malignancies on humoral immunity are unclear. The authors examined antiviral humoral immunity in 39 adults with B-cell malignancies who achieved durable complete remission without additional therapy for >6 months after CD19-CARTx. **Abstract**

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Local News

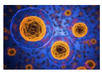
These Small Proteins Reveal a New Kind of Brain Diversity

Allen Institute for Brain Science

Allen Institute neuroscientist Dr. Stephen Smith has a driving interest in brain diversity — not in the sense of how one person's brain is different from another's, but in the rich and incredible variation within a single brain. His recent research has suggested that neuropeptides could underlie many aspects of brain diversity, and might be promising targets for more specific psychiatric treatments. **Read More**

Drug Discovery Gains Powerful Single Cell Transcriptional Profiling Tool

Genetic Engineering & Biotechnology News



A foundation of the drug discovery process, high throughput screening, is fraught with limitations. A new technique developed by researchers at UW called sci-Plex uses nuclear hashing to profile and quantify gene expression in single cells in response to thousands of independent perturbations at single-cell resolution. The new technology combines improvements in labeling cell nuclei with advances in profiling in which genes are expressed in each of millions of cells. **Read More**

Biomarker May Aid in Determining Treatment for Cancer Patients

University of Cincinnati

New research from the Swedish Neuroscience Institute in Seattle has found that a common virus that is harmless to most individuals may produce an important biomarker in determining the prognosis of brain cancer patients. The study highlights the possibility that having a prior infection and a presumed latent infection with human cytomegalovirus may somehow predispose patients to have a more aggressive course with glioblastoma. **Read More**

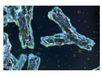
Thin Metal Films Loaded with Immune Cells Show Promise as Cancer Therapy

GeekWire

A team led by Dr. Matthias Stephan *(pictured)* at Fred Hutch has demonstrated the effectiveness of a new method for getting immune cells to fight solid tumors — by spreading them like jam onto ultra-thin sheets of metal mesh, and then laying the mesh onto the tumors. The mesh is made of a micropatterned nickel-titanium alloy, commonly known as nitinol. **Read More**

Gimme Shelter: CRISPR Hides Healthy Cells from Leukemia Drug

Fred Hutch



Using the gene-editing tool CRISPR, two teams from Fred Hutch have snipped a tiny bit of protein called CD33 from human blood stem cells and transplanted them in mice. They then used an experimental immunotherapy drug called a bispecific antibody that roused the immune system to wipe out acute myeloid leukemia tumor cells while sparing the edited cells. **Read More**

Embracing Diversity in a Team-Science World

Dr. Gary Gilliland

"We must empower this next, diverse generation of thinkers and leaders," urges Dr. Gary Gilliland, the outgoing leader of Fred Hutch. In this article, he discusses the need to empower the next generation by investing in training and STEM education, having role models and mentors that cultivate diversity, and maintaining accountability and action for the future. **Read More**

Seattle Flu Study Kicks Off Second Year of Effort to Understand How Flu Outbreaks Spread and How to Stop Them

Business Wire

The Seattle Flu Study is inviting the Seattle community to join them in finding new ways to protect people from future outbreaks. The study works by collecting nasal swabs from adults and children with colds or other illnesses, testing them for flu and other germs, giving participants their results, and mapping how flu moves through the community. **Read More**

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Interesting Articles

The EPA's Proposed 'Transparency Rule' Will Harm Health, Safety, and the Environment

STAT News

A proposed rule by the Environmental Protection Agency (EPA) that allegedly aims to strengthen transparency in regulatory science suggests that science is broken. It isn't. Last year, the EPA proposed a rule requiring that scientists disclose all raw data before any study conclusions would be considered. The EPA has received nearly 600,000 comments on the proposed rule. **Read More**

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Upcoming Events in Seattle

December 17 2:00 PM	**WE-REACH Biomedical Innovation Bootcamp** UW Seattle Campus, Fluke Hall, 3rd floor
December 28 1:00 PM	**Meet a Scientist at PacSci** Pacific Science Center
December 31 9:00 PM	**Spectra** Pacific Science Center
January 23 5:00 PM	**Life Science Industry Networking Event** Life Science Washington HQ
February 13-17 8:00 AM	**American Association for the Advancement of Science (AAAS) Annual Meeting** Washington State Convention Center

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Science Jobs in Seattle

Senior Research Scientist/Engineer, Virology
UW Department of Laboratory Medicine

Scientist, Antigen Map
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Fred Hutchinson Cancer Research Center

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