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Publications of the Week

Simultaneous Brain Cell Type and Lineage Determined by scRNA-Seq Reveals Stereotyped Cortical Development

First Author: Donovan Anderson *(pictured, left)* | Senior Author: Marshall Horwitz *(right)*
Cell Systems | Allen Discovery Center for Lineage Tracing, UW, and Howard Hughes Medical Institute

Common genomic alterations involve loss of heterozygosity (LOH). LOH accumulates throughout the genome, offering large encoding capacity for inferring cell lineage. Using only single-cell RNA sequencing (scRNA-seq) of mouse brain cells, the authors found that LOH events spanning multiple genes are revealed as tracts of monoallelically expressed, constitutionally heterozygous single-nucleotide variants. **Profile | Abstract**

Development of [^{211}At]astatine-Based Anti-CD123 Radioimmunotherapy for Acute Leukemias and Other CD123^{+} Malignancies

First Author: George Laszlo *(pictured, left)* | Senior Author: Roland Walter *(right)*
Leukemia | Fred Hutch and UW

Radioimmunotherapy (RIT) has long been pursued to improve outcomes in acute leukemia and higher-risk myelodysplastic syndrome (MDS). Of increasing interest are alpha-particle-emitting radionuclides such as astatine-211 (^{211}At) as they deliver large amounts of radiation over just a few cell diameters. The authors developed ^{211}At-based RIT targeting CD123, an antigen widely displayed on acute leukemia and MDS cells. **Profile | Abstract**

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Awards

Four Named to American Academy of Arts & Sciences

UW Medicine

Among the newly elected members of the American Academy of Arts & Sciences are four researchers from the UW School of Medicine and the Fred Hutchinson Cancer Center. They are Drs. Caroline "Carrie" Haywood *(pictured, top right)*, Rachel Klevit *(top left)*, Steven Henikoff *(bottom left)*, and Harmit Singh Malik *(bottom right)*. The Academy recognizes accomplishments and leadership in the arts, academia, industry, public policy, and research. **Read More**

Amfar Awards $550,000 to Researchers Pursuing Cutting-Edge Approaches to the Treatment and Cure of HIV

amfAR

Dr. Jeannette Tenthorey *(pictured)* of Fred Hutch has been awarded one of three Mathilde Krim Fellowships in Biomedical Research, receiving $150,000 over two years. Dr. Tenthorey's research focuses largely on TRIM5alpha, an antiviral protein that restricts HIV. As a Krim Fellow, Dr. Tenthorey will investigate further the process through which TRIM5alpha binds to HIV and alters the uncoating process necessary for a virus to infect a cell. **Read More**

Benaroya Research Institute Awarded $11.4M NIH U19 Grant to Profile Respiratory Viral Infections in Vulnerable Populations and $3.9M NIH R01 Grant to Develop New Treatments for Type 1 Diabetes

Benaroya Research Institute at Virginia Mason (BRI)

BRI announced new research grants, including a $11.4 million-dollar U19 grant to study respiratory viral infections in vulnerable populations and a competitive $3.9M Research Project Grant. The five-year National Institutes of Health (NIH)-funded U19 award, led by Drs. Carmen Mikacenic *(pictured)* and Matt Altman, will study immune system changes upon infection with acute respiratory viral infections in vulnerable populations like children with allergies, asthma, and obesity, and adults with rheumatoid arthritis. **Read More**

Dr. Roy Wins WE-REACH Go-To-Market Award for Novel Drug to Treat Idiopathic Pulmonary Fibrosis (IPF)

UW

The Washington Entrepreneurial Research Evaluation and Commercialization Hub (WE-REACH) announced a product concept award for Dr. Anindya Roy *(pictured)* and his team at the UW Medicine Institute for Protein Design, including Drs. Jake Kraft and Hua Bai. They are developing a novel binder protein in an aerosolized delivery system to treat IPF, for which the search for an effective treatment is a top National Institutes of Health priority. **Read More**

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Local News

BBI's Danny Miller Leading New Effort Offering Sequencing Services

Broman Baty Institute (BBI)

BBI's Dr. Danny Miller and the UW's Nanopore Sequencing Core are providing both targeted and whole genome long read sequencing on the Oxford Nanopore platform to assist other researchers with their projects. "As new DNA and RNA sequencing technologies are developed that provide a more comprehensive view of genetic variation, it is imperative that researchers and clinicians have access to leading-edge services," said Dr. Miller. **Read More**

Risk Factors for Severe COVID-19 in Hospitalized Adults Differ by Age

Institute for Systems Biology (ISB)

An ISB-led study has shed light on which hospitalized COVID-19 patients are most likely to need mechanical ventilation or to die. Researchers showed that vital signs and lab results at the time of hospital admission are the most accurate predictors of severe COVID-19. "Our models show that chronic conditions, comorbidities, sex, race, and ethnicity are much less important in the hospital setting for early prediction of critical illness," said Dr. Sevda Molani, lead author of the paper. **Read More**

Progress Against Peanut Allergies

Benaroya Research Institute at Virginia Mason

One question inspired Dr. Erik Wambre *(pictured, second from right)* to dedicate his career to allergy research. "Why can most people eat peanuts without a problem, but some people have a serious reaction to just a small amount?" he says. "What makes one person allergic and not another?" Dr. Wambre's research focuses on what causes allergies and how to stop them — including a key discovery of a cell type called TH2A that drives all allergic diseases. **Read More**

Zymeworks Reports Last Patient Enrolled in Pivotal Study of Zanidatamab in Treatment of HER2-Expressing Late-Line Biliary Tract Cancer

BioSpace

Zymeworks, a clinical-stage biopharmaceutical company developing next-generation multifunctional biotherapeutics, announced that it has completed enrollment in its global HERIZON-BTC-01 pivotal clinical trial evaluating the antitumor activity of zanidatamab monotherapy in patients with previously treated advanced or metastatic HER2-amplified biliary tract cancers, including gallbladder cancer and cholangiocarcinoma. **Read More**

Umoja Biopharma Announces Activation of First ENLIGHTen Phase I Trial Site in Study of UB-TT170, a TumorTag that Targets Folate Receptors to Mark Tumors for Clearance by CAR T Cells

Umoja Biopharma

Umoja Biopharma, an *immuno-oncology company* pioneering off-the-shelf, integrated therapeutics that reprogram immune cells *in vivo* for patients with solid and hematologic malignancies, announced the Seattle Children's activation of the Phase I ENLIGHTen clinical trial in patients with osteosarcoma to assess the safety and tolerability of autologous "universal" CAR T cells when administered with UB-TT170, the Company's proprietary small molecule fluorescein tag. **Read More**

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Upcoming Events in Seattle

May 10 10:30 AM	**Distinguished Seminar: Ilana Witten** Online
May 10 4:00 PM	**DeviceConnect: Novel Delivery Mechanisms for Modern Medicine** Online
May 11 12:00 PM	**Biostatistics Seminar Series** Online
May 12 8:00 AM	**Frameworks for Brain Cell Type Definition, Ontology, and Nomenclature Workshop: Mapping of Cell Type Data** Online
May 12 4:00 PM	**Research Roundtable with Drs. Jenn Hadlock and Sam Piekos** Online

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Science Jobs in Seattle

Research Associate I, Stem Cell Culture and Differentiation
Allen Institute

Research Scientist II
Seattle Children's

Research Associate, Immuno-Oncology
Kineta

Clinical Scientist, Cell Therapy
Bristol Myers Squibb

Senior Research Scientist, Inflammation
Gilead Sciences

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