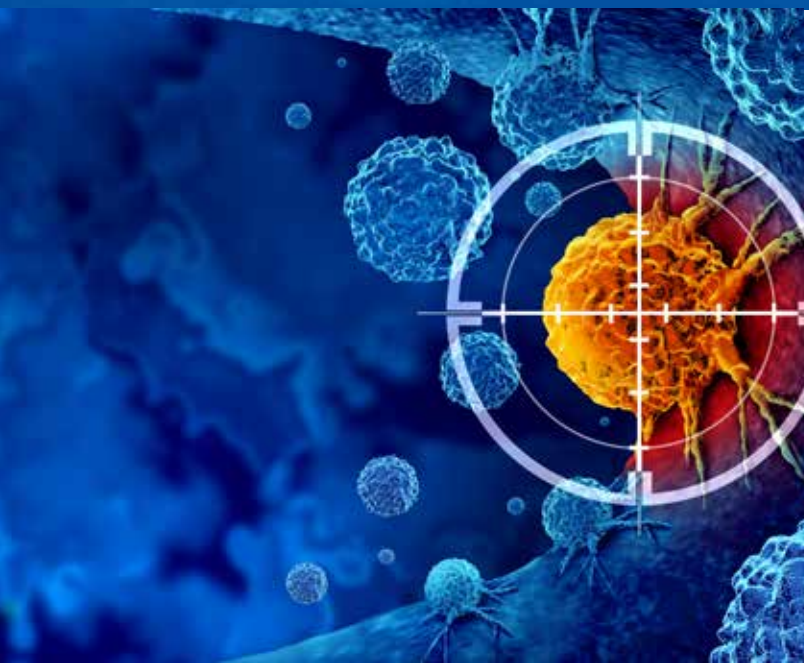
Oncology

University of Pittsburgh



The University of Pittsburgh is home to the UPMC Hillman Cancer Center, a nationally and internationally renowned research center dedicated to novel therapeutic discovery as well as the education and training of the next generation of cancer researchers.

- Pitt is #6 in 2023 National Institutes of Health (NIH) funding for Educational Institutions.
- Pitt is #13 in 2023 National Cancer Institute (NCI) funding.
- Pitt is one of only 53 NCI-designated comprehensive cancer centers in the country.
- More than 2,000 physicians, researchers, and staff; more than 110,000 individuals treated each year.

Research Strengths | Capabilities

Centers

- **UPMC Hillman Cancer Center**
  For 30 years, UPMC Hillman has been conducting groundbreaking research into all types of cancer.
- **Institute for Precision Medicine**
  Facilitates the movement of biomedical research into personalized clinical care with the goal of helping researchers and clinicians discover exploit disease risk, effectiveness of medical treatments and disease progression.
- **Magee-Women's Research Institute**
  The largest women's research institute in the U.S. dedicated to the first 9 months to 90-plus years to transform women's lives.

Research Resources

- Center for Antibody Therapeutics: mAbs, BiTes, Fabs
- Immunologic Monitoring and Cellular Products Laboratory (IMCPL): Generation, production, and scaling of cell-based therapies for clinical trials at UPMC Hillman Cancer Center.
- Pitt is home to NCI-sponsored Specialized Programs of Research Excellence (SPOREs): Ovarian, Head and Neck Cancer, Melanoma and Skin Cancer.
- Hillman Cytometry Facility (CF): Core laboratory providing analytical cytometry, high-speed BSL-2+ cell sorting, and spatial transcriptomics profiling services.

New Available Technologies

- #4988 T Cell Receptors Targeting Defective DNA Repair Proteins
- #4989 T Cell Receptors Targeting Mutations in RNA Splicing Factors
- #5032 AMPK Activator
- #5522 NAMPT Inhibitor
- #5563 NAMPT Activator
- #5557 New Peptide to Treat Glioblastoma by Modifying the TME to Enhance Antitumor
- #3817 HSV Oncolytic Virotherapy
- #6044 Allosteric Modulators for CRPC Therapy

See Additional Technologies Here.

For partnering interest contact:

Office of Innovation and Entrepreneurship
partner@pitt.edu

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Publications:

- **EGFR promotes ALKBH5 nuclear retention to attenuate N6-methyladenosine and protect against ferroptosis in glioblastoma.** Lv, Deguan, Rich, Jeremy; et al., Molecular Cell, December 7, 2023.
- **The PD-1- and LAG-3-targeting bispecific molecule tebotelimab in solid tumors and hematologic cancers: a phase 1 trial.** Luke, Jason; et al., Nature Medicine, November 29, 2023.
- **Immune landscape in invasive ductal and lobular breast cancer reveals a divergent macrophage-drive microenvironment,** Onkar, S; Lee, Adrian; Oesterreich, Steffi; et al., Nature Cancer, March 16, 2023.
- **PACCM and Hematology/Oncology faculty collaborate to identify link between telomere mutations and melonama,** Department of Medicine, Alder, Jonathan; Kirkwood, John; et al, University of Pittsburgh, Department of Medicine; Dec. 13, 2022.
- **Pitt's BioForge Manufacturing Center gets approval from Pittsburgh's Planning Commission,** pitt.edu,PittWire; University of Pittsburgh; Nov. 17, 2021.

Highlighted Faculty

Adrian Lee, MD, PhD

Director of Institute of Precision Medicine
Department of Pharmacology and Chemical Biology

- The Lee/Oesterreich Lab's main focus is identifying mechanisms of resistance to endocrine therapy and new approaches to blocking breast cancer metastasis through precision medicine including the study of estrogen receptor (ESR1) mutations and fusions and synergism with growth factor pathways.
- Dr. Lee has examined the effect of intratumor heterogeneity on prognostic tests in breast cancer, and is currently leading an effort to sequencing metastatic breast cancers to identify vulnerabilities for novel precision. therapies.
- Another focus is understanding invasive lobular cancer (ILC), the second most common but understudied histological subtype of breast cancer.

Steffi Oesterreich, MD, PhD

Professor and Vice Chair,
Director of Education at the Women's Cancer Research Center

Department of Pharmacology and Chemical Biology

- The Lee/Oesterreich Lab uses computational and wet-bench approaches to understand progression of breast cancer to metastatic disease, role of cancer cell heterogeneity and the tissue microenvironment.
- Studying how estrogen receptor positive tumor cells become resistant to endocrine therapy.
- Using cell line and animal models with current effort focused on the characterization of hotspot mutations in the estrogen receptor, the main target for the endocrine therapy.

Robert Ferris, MD, PhD

Director of UPMC Hillman Cancer Center
Department of Otolaryngology

- Dr. Ferris' lab is committed to developing new techniques to combat head and neck tumors.
- Studies the immune response to human papillomavirus-associated head and neck cancers.
- Strategies of immune evasion by cancer cells.
- Investigates mechanisms of anti-tumor immunity in the microenvironment, immune escape mechanisms developed by tumor cells to evade NK and T cells elimination.

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