

Newell Lab Internship

By Waylon Westmoreland

About Me

- Fred Hutch Lab Tech/LabLaunch Program
- Shoreline Community college
- I want to be a Lab Tech or Lab Operator in a T-Cell lab
- Hiking, Auto Mechanics
- My high school biotech teacher

Lab Connection To Fred Hutch Mission

- Uses T-Cell Immunology find new and innovative ways to help with vaccines and infectious diseases

Highlight of my summer

- I enjoyed furthering my knowledge about T-Cell therapies and their many uses
- being able to work hands on in a lab setting where i did things like tissue digestions and DNA Extraction

About My Lab

- Ran by Dr. Evan Newell.
- The lab focuses on understanding immune responses in cancer and infectious diseases, and developing immunotherapies and vaccines.
- Blood and tissue samples.
- Samples come from clinical collaborators and patients involved in studies.
- Mass cytometry and other single-cell analysis methods are performed on samples.
- The lab generates data on immune cell characteristics and functions, used to develop targeted therapies and vaccines.



About Research Technicians

- Perform single-cell analysis and mass cytometry.
- Process and analyze blood and tissue samples.
- Support research experiments and data collection.

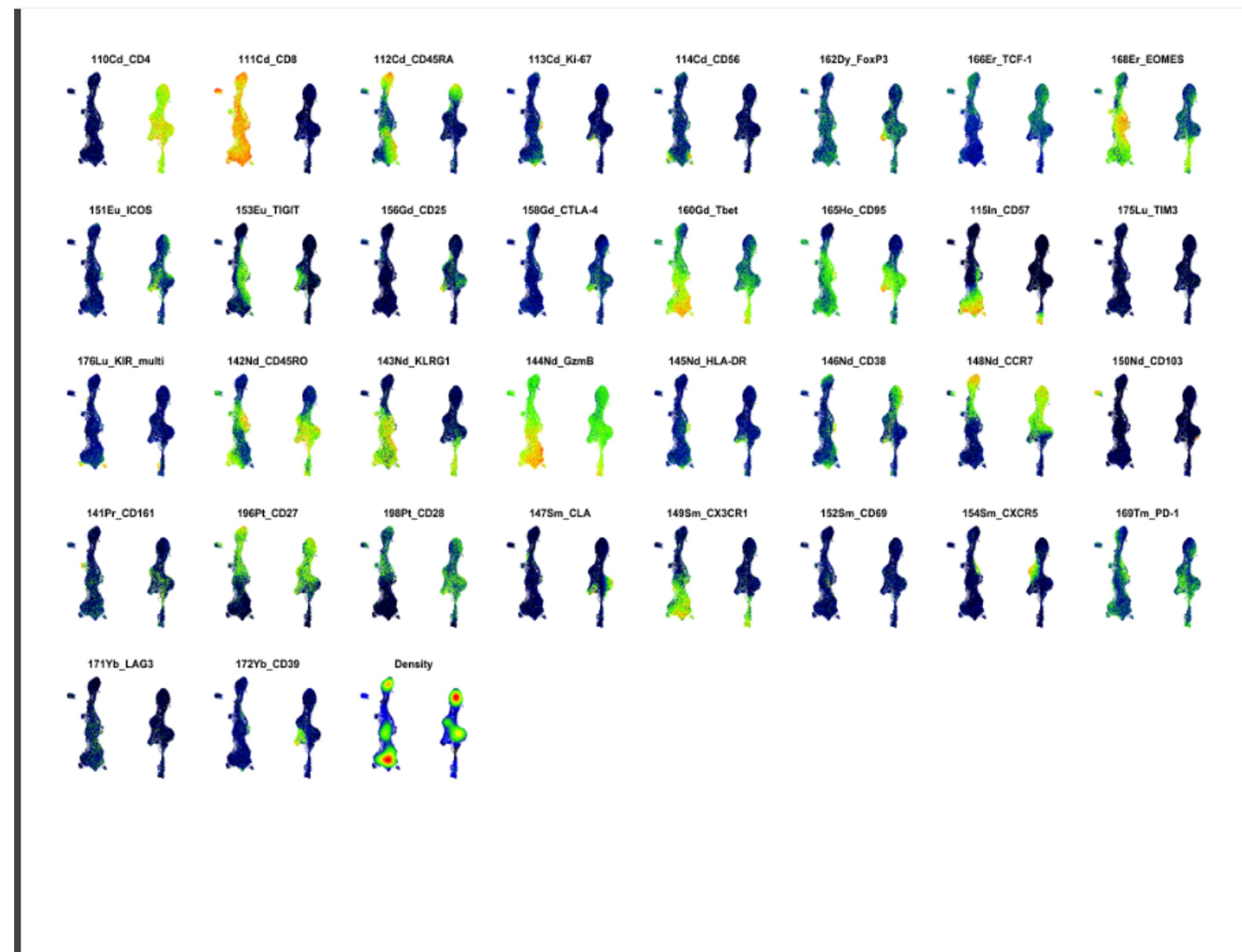
What I Did

list of things i did:

- DNA Extraction
- Tissue digestion
- Gel Electrophoresis
- TCR Sequencing
- Flow Cytometry
- Mass Cytometry

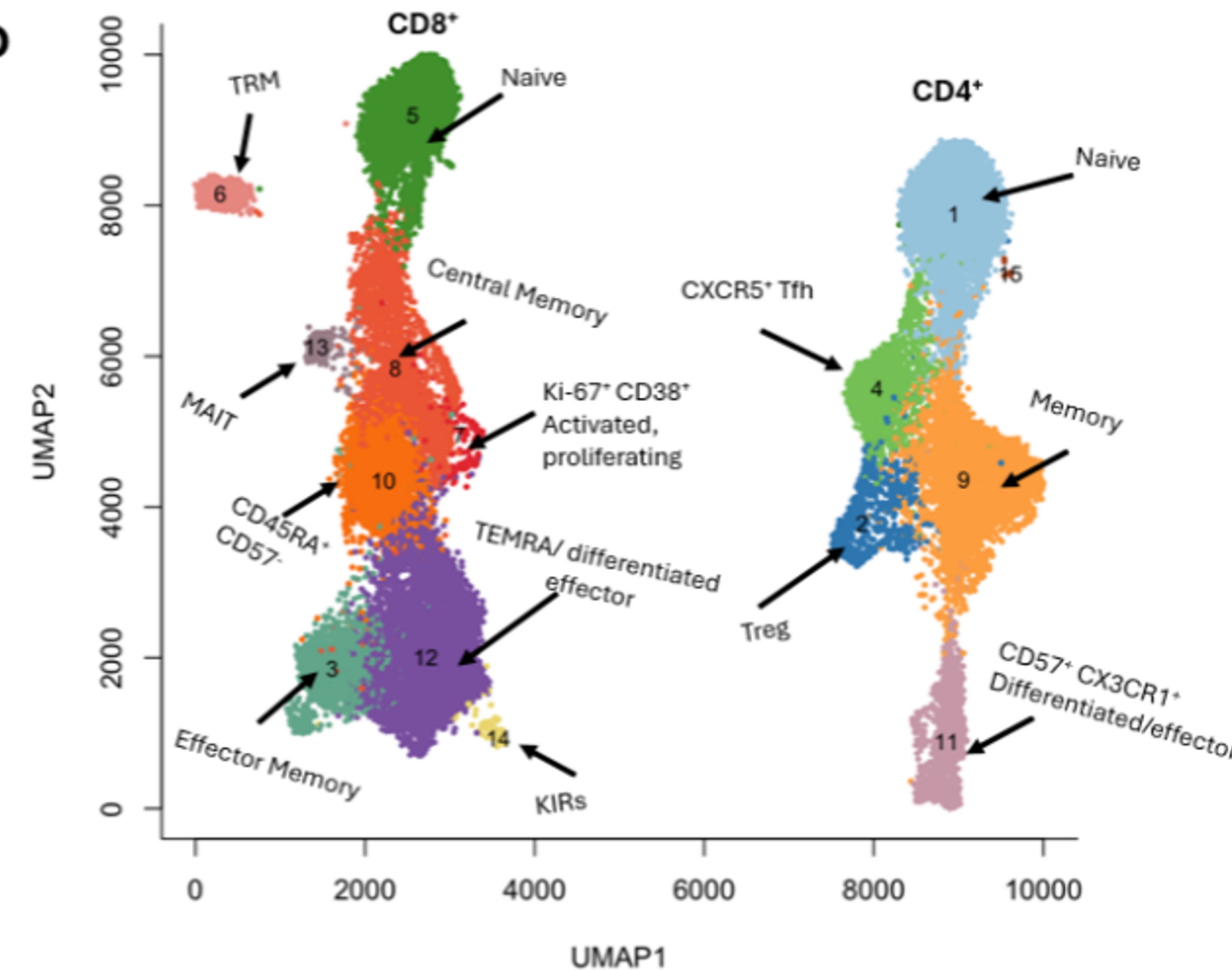
Mass Cytometry

Mass cytometry, also known as CyTOF, is a technique used to analyze the characteristics of individual cells in a sample. It combines the principles of flow cytometry with mass spectrometry, allowing for the simultaneous measurement of multiple parameters at the single-cell level.



T cells UMAP

Input: 15000 cells gated to CD4 and CD8, from SAC210667 and 4032BW



How I used CyTOF

- melanoma
- Created a healthy control for future project
- created a UMAP of healthy T-cells