
Interrogating Anti-Tumor T-Cells To Develop Adoptive Cell Transfer Immunotherapy for Pediatric High-Grade Glioma

A Data Management Plan created using DMPTool

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Template: Brain Tumor Funders' Collaborative

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Project abstract:

Investigators on this proposal have extensive experience in single-cell RNAseq and immunotherapy trials for glioma patients. Notably, we described significant heterogeneity of glioma infiltrating myeloid cells. Separately, we demonstrated that, following peptide-based vaccine immunotherapy, reactive T-cells are detectable in the periphery. Additionally, although complete TCR sequences may vary widely between T-cells and patients, it recently has been demonstrated that TCRs with similar peptide specificity can be determined by assessing short stretches of TCR amino acid sequences within CDR3 areas predicted to bind the peptide (8). We therefore hypothesize that scRNAseq technologies can define antitumor T-cell heterogeneity, and TCR sequences isolated from these cells will allow for generation of TCR-transduced T-cell strategies for pediatric gliomas.

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Data Collection

TCR sequences

5' Gene Expression data in T-cells

Data will be generated at the CHP Genomics Core and analysis will be performed by Aaron Diaz at UCSF

Documentation and Metadata

Patient tumor type

Sample type (Autopsy, Fresh, archival)

Number of cells

Antigen specificity

Data quality

Aquisition date

Provider location

Ethics and Legal Compliance

All studies will be completed under an approved IRB protocol, or written exemption from the University of Pittsburgh IRB

The University of Pittsburgh Innovation Institute will be the primary contact for all issues regarding IP/IPRs

Storage and Backup

Data will be stored on Basecamp.com, backed up on an external hard drive housed at the University of Pittsburgh and stored on network drives at the University of Pittsburgh. Lab notebooks will be kept in the lab at which work was completed. Aaron Diaz at UCSF will be responsible for backup and recovery of data. In case of an incident involving complete loss of data, and absence of possible data recovery, experiments will be repeated.

basecamp is monitored by Dr. Kohanbash. The external hard drive will be used to back up all data at least 1 time/week. The University of Pittsburgh cloud storage allows for secure sharing of data between investigators.

Selection and Preservation

All data will be stored for a minimum of 10 years from the time of collection. TCR data may remain off of public serves until approval is received from the University of Pittsburgh Innovation Institute.

As soon as feasible data will be uploaded to ArrayExpress.

Data Sharing

Positive and negative data, and protocols, will be shared through publication, presentation at national and international meetings. Additionally, data will be uploaded on ArrayExpress for sharing.

Any data involving IP/IPR will require authorization from the University of Pittsburgh Innovation Institute and a possible CDA.

Responsibilities and Resources

Drs. Diaz and Kohanbash will be primarily responsible for data management. All investigators will also assume responsibility for data management.

Technical expertise to be provided by Dr. Diaz and Dr. Kohanbash