

# Aging, Dementia and TBI

## Aging, Dementia and Traumatic Brain Injury Project

The Aging, Dementia and Traumatic Brain Injury Project is a detailed neuropathological, molecular and transcriptomic characterization of brains of control and TBI exposure cases from a unique, population-based aged cohort from the Adult Changes in Thought (ACT) study of aging and dementia.

### KEY FEATURES:

#### Overview: Curated visualizations of the data in this resource.

- t-Distributed Stochastic Neighbor Embedding (t-SNE) plots paired with Parallel Coordinates plots designed to reduce the complexity of this high-dimensional dataset, allowing relationships in the data to be explored
- Snapshots of gene expression data organized by gender, structure, cell-type, inflammation, dementia and TBI
- Snapshot of neuropathological data paired with demographic data
- Interactive versions of each snapshot to allow for exploration of the data

#### Specimens: Links to Donor Data

- Matrix of donors sortable by demographic and neuropathological metadata
- Link to all metadata and image data for each individual donor

#### RNA Sequencing:

- Differential and Correlation searches
- Heatmap representation sortable by metadata
- Link to genome browser for simultaneous sequence-level viewing of multiple samples

#### Download the data

- RNA-Seq data (raw data and normalized data matrix)
- Histopathological data and metadata
- Donor weights for making inferences that apply to the entire ACT Cohort

### ***Additional Data in the ACT Study and How to Access It***

*The ACT study is a longitudinal population-based prospective cohort study of brain aging and incident dementia in the Seattle metropolitan area. ACT is a Repository administered by Kaiser Permanente Washington Health Research Institute (formerly the Group Health Research Institute), which has established policies and procedures for sharing data with external investigators. Data available from this project web site do not require any additional Institutional Review Board (IRB) approval or permissions. Linking those data with other ACT study or Kaiser Permanente Washington data would require additional review which can be initiated by contacting [KPWA.actproposals@kp.org](mailto:KPWA.actproposals@kp.org).*