Northwestern Medicine®
Feinberg School of Medicine

Accelerating Transplant Science: How the CTC's Bioinformatics Core Can Support Your Research

The Comprehensive Transplant Center's Bioinformatics Core at Northwestern University

Our mission is to advance patient-centric impact by providing high-quality data analysis, innovative computational approaches and educational support to enhance basic, pre-clinical, clinical and epidemiological transplant research.

We serve as a collaborative platform for researchers at Northwestern and beyond, providing expertise in analysis of multi-omics data—including genomics, transcriptomics, epigenetics, proteomics, and metabolomics—to drive discovery and innovation in transplantation research.

Our Services Include (But Not Limited to):

Data Storage and Management
Insight on storage of large data files at Northwestern through Quest High-Performance Computing Cluster

DNA Sequencing
Genome-Wide Association Studies (GWAS) to identify genetic variants linked to transplant outcomes

HLA typing from whole genome sequencing to determine donor-recipient compatibility among cohorts of transplant patients

RNA Sequencing
We provide tailored computational pipelines to dissect cellular heterogeneity, map gene expression within tissue architecture, and uncover transcriptional networks driving transplant outcomes

Includes single cell/nuclear RNA sequencing, spatial transcriptomics, and bulk RNA sequencing

Epigenomics
Includes ATAC sequencing, chromatin immunoprecipitation (ChIP) sequencing analysis to provide insights on gene regulation and epigenetic modifications

Proteomics & Immunopeptidomics
Advanced proteomics and immunopeptidomics analysis, enabling researchers to profile global protein expression, post-translational modifications, and antigen presentation dynamics

Metabolomics
Includes comprehensive profiling, targeted metabolite identification, and metabolic flux analysis to uncover metabolic signatures

Powering Research Success: Bioinformatics Support for Grants & Publications

Supporting Grant Applications

- **Strengthen Proposals:** High-quality bioinformatics data for preliminary results
- **Grant Writing Support:** Assistance with computational methods and study design
- **Data Visualization**: Creation of figures, heatmaps, and network graphs
- **Collaboration & Letter of Support**: Available as co-investigators or collaborators

NIH National Institutes of Health

AST AMERICAN SOCIETY OF TRANSPLANTATION

ASTS American Society of Transplant Surgeons

Enhancing Publications

- **Comprehensive Data Analysis:** From raw data processing to biological and clinical interpretation
- **Publication-Ready Figures:** High-quality visualizations for manuscripts
- **Reproducibility and Rigor**: Standardized workflows and analysis pipelines

Looking to start a collaboration?

Please complete our Bioinformatics Intake Form located on our website:

https://www.feinberg.northwestern.edu/sites/transplant/research/research-cores/bioinfo-core.html

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