

Iowa Residual and Virtual Tissue Repositories Facilities and Resources

The Residual Tissue Repository (RTR) has a collection of >500,000 formalin fixed and paraffin embedded (FFPE) tissue blocks from more than 60,000 malignant tumors. These tissue blocks are provided by pathology laboratories following completion of the College of American Pathologists (CAP) mandated 10 years on-site storage. There is also a Virtual Tissue Repository (VTR) that coordinates access to additional FFPE tissue that is <10 years since cancer diagnosis (> 400,000 cancer cases) and remain in the possession of originating pathology laboratories. Michael O'Rorke, PhD (University of Iowa Assistant Professor of Epidemiology) is the Director and Principal Investigator of the RTR/VTRs, located administratively within the Department of Epidemiology of the University of Iowa College of Public Health.

The Iowa Cancer Registry (ICR) is Iowa's statewide population-based cancer registry, collecting cancer incidence data on all Iowa residents. The ICR is one of 21 registries in the United States funded by, and providing data to, the Surveillance Epidemiology and End Results (SEER) Program of the National Cancer Institute (NCI). The ICR is one of only three SEER registries that partners with a tissue repository that systematically collects and archives diagnostic tissue for IRB approved research.

All cases in the RTR and VTR can be linked to clinical pathological data housed within the ICR. Fundamentally, this provides a powerful capability to identify potential study cases and attach individual case data, as specified in IRB approved research protocols. The RTR and VTR work product consists of providing FFPE tissue, corresponding de-identified pathology reports, and customized data elements as specified by investigators via IRB approved research protocols. Tissue may be in the form of unstained slides, tissue scrolls, and tissue cores suitable for tissue microarrays. Most investigators use tissue for immunohistochemistry or molecular studies. The RTR/VTR requires reimbursement for labor and direct costs related to fulfilling requests for specific case types, case/control identification and selection, histology services, organization of de-identified pathology reports and specified data elements, and secure delivery.

The RTR and VTR have a longstanding working relationship with the Histology Research Laboratory (HRL) of the University of Iowa Department of Pathology, directed by David Meyerholz, DVM PhD. The HRL is fully equipped with microtomes, cryostats, and full-service capability for custom tissue microarray assembly and immunohistochemistry. The clinical Immunohistochemistry (IHC) Laboratory of the Department of Pathology provides additional histology services as requested by the HRL. The IHC Laboratory has Leica Bond III and Ventana Benchmark instruments for automated immunohistochemistry and RNA

scope in situ hybridization. The department also has multiple 3DHISTEC PANNORAMIC digital slide scanners and slide image visualization software as needed.