

# Biorepository Resource Center

## Grant Boilerplate

The CHOP Biorepository Resource Center (BioRC) serves to accession, process, store, and manage distribution of research biospecimens for investigators across the Research Institute. The facility is designed to serve all of CHOP's biobanking needs, avoiding specimen duplication, preserving precious materials, and providing broad access to data and materials. The BioRC storage facility is located in a 2956 sq ft temperature controlled, card access facility on the A-Level of the Colket Translational Research Building.

The heart of the BioRC storage facility is the REMP Mid-Size Store (MSS) for storage of DNA samples. The REMP MSS holds up to 17,472 plates in 96 matrix tube formats, translating to 1.7 million DNA samples in a carefully monitored minus 20°C temperature and humidity-controlled environment. The BioRC also has storage capacity for 210,000 vapor phase liquid N<sub>2</sub> (-196°C) samples and ~500,000 minus 80°C samples (RNA, tissue, plasma, serum, etc.). The BioRC is outfitted for expansion to accommodate liquid N<sub>2</sub> storage of up to 300,000 samples and minus 80°C storage of up to 700,000 samples. All specimens within the CHOP BioRC are tracked through the sophisticated Thermo Nautilus Laboratory Information Management System (LIMS). Nautilus LIMS is an enterprise Oracle-database LIMS system that facilitates tracking of specimens and specimen data through their functional lifetime, including acquisition, 2D-barcode labeling, storage, processing, testing, and QC. The BioRC's laboratory space, also located in the Colket Translational Research building, is outfitted for sample accession, processing, and temporary storage. Major equipment includes Qiagen Symphony and Chemagic 360 automated nucleic acid extraction systems, two Qiagen QiaCube automated nucleic acid extraction systems, an Agilent TapeStation 4200, a DropQuant HTS spectrophotometer, and three BSL<sub>2</sub> hoods for specimen processing. BioRC services include sample accession, tracking, processing, fractionation and extraction, storage, and distribution.

The BioRC has been established as part of the biobanking initiative at CHOP under the following principles:

- (1) BioRC is governed by an Operational Committee that coordinates for both central and investigator-specific biobanking resources and programs at CHOP,
- (2) BioRC facilitates integration and enhancement of access to information about biorepository resources across the CHOP community of investigators,
- (3) BioRC assists investigators in developing new projects that require the collection and processing of samples not currently available, or to help existing projects whose investigators would like to migrate storage and management of their banked specimens and data to the BioRC, and



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- (4) BioRC will institute and follow best-practice standard procedures for collection, processing, and storage of samples to ensure high quality specimens and data for CHOP investigators.

