

Tubes

Storage in the Hamilton BiOS is the ultimate investment in the integrity and long-term stability of a sample. The tube type for long-term storage has far-reaching implications related to the integrity and stability of the sample. The financial investment of a researcher in participant recruitment, sample collection and processing is significant. Therefore, special care is warranted when choosing a storage tube and storage system to ensure that tubes do not crack during long-term storage, that the tube materials do not leach into the sample over time and that tubes do not burst or crack when transported to collaborators. The integrity of all samples stored in the BiOS is of the utmost importance, as is preserving the integrity of the BiOS itself. For sample and BiOS safety reasons, only compatible and pre-approved tube types will be stored in the BiOS.

These are as follows:

1. FluidX 96-Format, 0.26ml External Thread, Next-Gen Jacket, Dual-Coded Tube
2. FluidX 96-Format, 0.5ml External Thread, Next-Gen Jacket, Tri-Coded Tube
3. FluidX 96-Format, 1.0ml External Thread, Next-Gen Jacket, Tri-Coded Tube



The Biorepository Unit aims to support scientists by providing a seamless and reliable sample storage and processing service, that will ultimately aid them in contributing to medical advancements.

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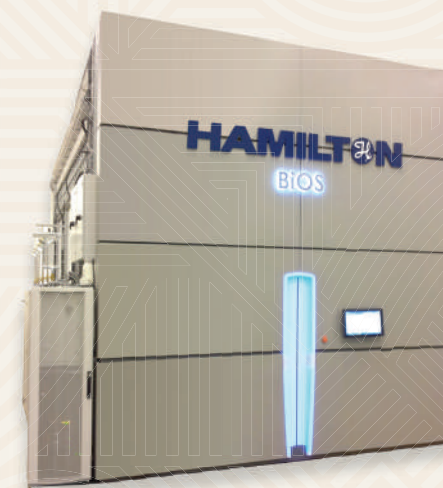
For more information, please visit: www.sun.ac.za/biorepository

Video



BIOMEDICAL RESEARCH INSTITUTE

Biorepository Unit



Guaranteed sample
integrity, security and traceability

About the Biorepository unit

The BMRI Biorepository Unit, which forms part of the state-of-the-art Biomedical Research Institute housed within the Stellenbosch University Faculty of Medicine and Health Sciences, is a purpose-built facility that offers a range of biorepository services to clients in both academia and industry. Some of the services include sample processing, -80°C storage, -196°C vapour phase storage as well as sample shipping.

The biorepository utilises the Hamilton BiOS, a large-scale, automated biological storage system, to assist in the management and storage of samples. The Hamilton BiOS offers an alternative storage option to upright and chest -80°C freezers, conserving costs, energy, and space, while ensuring sample integrity, easy access, and tracking. Through its cutting-edge robotic technology, a vast array of biological specimens can be stored and retrieved from the system within minutes from a single secure location, without compromising sample integrity. The unit's BiOS was the first automated storage system of this scale to be commissioned in the Southern Hemisphere and has a sample capacity of approximately 3.5 million.

The facility is equipped with several backups, including two refrigeration systems, and in the event of a power failure, a backup generator and a bulk liquid nitrogen tank which allows for vapour phase storage of samples should the generator fail. The BiOS is monitored around the clock with alarms and alerts sent directly to Biorepository staff and technical support team, in real-time for immediate action. The Unit follows ISBER guidelines and functions in accordance with all the necessary ethical and regulatory requirements.

The service offering

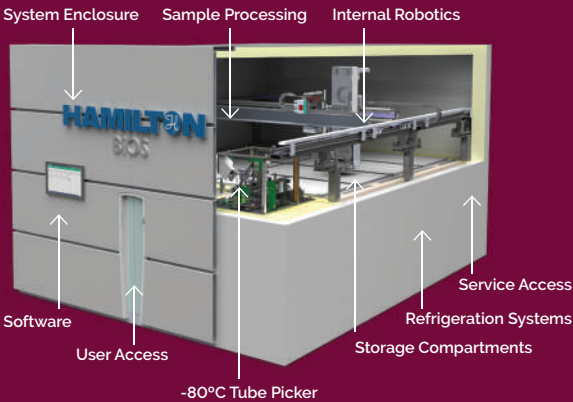
-80°C Storage

Storage in the BiOS offers a number of features, which makes it far superior to conventional ultra-low temperature (ULT) freezers. These include the following:

- 1. Automated sample management workflows;
- 2. Sample integrity and temperature control at -80°C;
- 3. Traceability – full audit trail and temperature log;
- 4. Sample security – stringent access control; and
- 5. Backups – built-in redundancies.

An investment in BiOS storage will ultimately save you:

- 1. Space, by eliminating the need to accommodate hundreds of conventional ULT freezers;
- 2. Money, by reducing energy costs and eliminating costs associated with purchasing, maintaining and insuring freezers; and
- 3. Time, by eliminating hours spent manually searching through conventional freezers for samples, sample storage errors, and the need to be onsite after hours due to freezer failure or malfunction.



-196°C Storage

The Biorepository also offers long term cryopreservation using liquid nitrogen vapour phase storage. Inventory management is achieved using a LIMS and conditions are monitored continuously to ensure sample integrity is not compromised.



Sample Processing and Preparation for Storage

The Biorepository Unit has a sophisticated automated robotic workstation which will offer the following services to clients:

- 1. Nucleic acid extractions from blood, saliva, and other bodily fluids (e.g., RNA extraction from PAXgene® Blood RNA Tubes);
- 2. Aliquot preparation;
- 3. Aspiration of blood fractions (i.e., plasma, serum, buffy coat, and remaining red blood cell component);
- 4. Reformatting of thawed samples from current BiOS incompatible storage tubes into the compatible FluidX tubes.

