

Standard Operating Procedure (SOP) 010V2.0 Retrieval of Samples from LN2

Effective Date: Sep. 10, 2015

Author: Theresa Mathieson M.S. Biospecimen Manager.

Approved by:

Materials:

Pre-labelled sample box

Sample list sorted by freezer rack/box/position location

Dry Ice: available in R3

Lab Coat: available in SSF R3 C156

Gloves: available in SSF R3 C156

Safety Glasses: available in SSF R3 C156

Tweezers or Forceps: helps to remove tightly packed sample vials from a box of frozen samples

Oxygen Monitor: available in SSF R3 C156

The LN2 Freezer room is housed within the ICTSI Specimen Storage Facility (SSF) located in Walther Hall (R3), room C156. All access to this facility is controlled and all persons entering the LN2 storage room must have received the proper training from the staff of the SSF and be familiar with all the safety requirements associated with entry into this room.


LN2 tank access:

The Specimen Storage Facility can be accessed during open hours. Monday through Friday 9am-10am or 2pm-3pm. During open hours there is SSF staff available for monitoring assistance. If assistance is needed outside of open hours it can be requested through the SSF website:

<https://www.indianactsi.org/ictsissf>.

Alternatively, access is possible if two trained and preapproved KTB employees arrive together and one assists and monitors the other.

All access procedures and protocols are to be in compliance with SSF SOP for controlled access (SF-2-3.11).


10/7/15

Sample Pulling:

The samples stored in the LN2 tank are in boxes with a 10 x 10 configuration of vial positions. Even though the positions numbers are marked inside the box, they are not easily seen because of frost. The boxes are set up to be held with the labelled fronts towards you. Positions are read from left to right starting in the top left corner with number one. The bottom right corner is then position 100. **It is critically important that the lids to the sample boxes are replaced with the labelled front of the lid and bottom matching.**

A pre-labelled sample box is to be chilled on dry ice up to 30 minutes before samples pulled from the LN2 freezer are put into it.

Bring a sample box in dry ice on a cart to the SSF facility. Also bring the list of samples that are to be pulled. Be sure the sample barcodes are sorted in Excel by Rack#, then by Box#, then by Position#. Having samples sorted in this manner reduces the time that racks and boxes of samples are exposed to the warmer environment outside of the LN2 tank.

Put on all the appropriate PPE as required by SF-2-3.11. This includes a lab coat, gloves, safety glasses or visor, and an oxygen monitor.

Access the LN2 room with your prox card after you have made arrangements for monitoring assistance.

Proceed to the KTB LN2 tank. Remove the lid and set it aside. Locate the rack needed and pull it from the tank. If visibility is too difficult because of vapor, push the "Fill" button on the control panel of the tank and wait for the vapor to subside.

If you are pulling just a few samples from the rack, lay the rack across the top of the open mouth of the tank, pull the first box needed and place it on dry ice. Pull sample(s) needed and place them in the pre-chilled sample box. Replace the first box into the LN2 rack, then pull the next box you need from that same rack.

If you are pulling many samples from a rack, it is best to pull up to two boxes from the rack, put them on dry ice and **replace the rack into the LN2 tank** until you are ready to put the boxes back. Also replace the lid onto the LN2 tank. This prevents temperature differentials from occurring and prevents alarms from going off.

When all the desired samples are pulled, replace the lid on the LN2 tank. View all the edges of the lid/tank interface to be sure the lid is sitting snugly upon the tank.

Exit the room and remove all PPE.

Appendix A: Abbreviations:

- 1) ICTSI: Indiana Clinical Translational Science Institute
- 2) SOP: Standard Operating Procedure
- 3) PPE: Personal Protective Equipment

Storm MD
10/7/15