



CHN69: PROCESSING OF DBS CARDS FOR STORAGE

1.0 PURPOSE / INTRODUCTION:

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The SOP is suggested for processing of stored or freshly collected Dried Blood Spots (DBS).

Stored DBS Cards

All stored DBS will be punched into tubes centrally in Kilifi. The DBS blood spots should not be touched with bare hands or with gloves at any one time during processing. Retrieve a few DBS at a time for punching and place them on dry ice without exposing them in the open for more than 5 minutes to avoid thawing. Cold Chain must be maintained always. Processing should be done as quickly as possible on dry ice to avoid thawing of the DBS.

All stored DBS must be punched on dry ice only and the surface covered with a clean filter paper to avoid wetting and ensure stability of all metabolites/proteins as well as prevent contamination.

Newly collected DBS cards

Newly collected DBS cards should be received in the lab and dried for 15 minutes as per our SOP then punched into cryotube directly. One should be careful to drop the punched spot into the tube without letting it drop outside to avoid contamination. The working surface should be covered with a clean paper towel in case the spots drops outside the tube. Use a sterile forceps or disposable loop to push the punched dry spot back into the tube.

2.0 SCOPE / RESPONSIBILITY:

This SOP is applicable to all lab staff working in laboratories involved in CHAIN study and processing DBS daily.

The Principal Investigator (through the study coordinator when applicable) retains the overall responsibility of implementation of these standard procedures.

3.0 EQUIPMENT AND MATERIALS

DBS punching machine.
1.8 ml nunc cryotubes.
Filter papers/paper towel.
Sterile tweezers.
Paper towel.
Distilled water.
Barcode labels.

Specifications Stored DBS

Precautions

Inspect the DBS punching machine for any rusting before use to avoid cross sample contamination.



4.0 PROCEDURE

Specifications fresh DBS

1. After drying the DBS cards for 15 minutes as indicated on CHAIN SOP number 32, obtain a 6-mm sample disc from the DBS blood card.
2. Using the Arrayit Sample Disc Punch 6mm round sample of fully "red" portion of each of the DBS spots from a single participant card into one tube and try to drop it directly into a cryotube without allowing it to drop on the surface to avoid contamination.
3. In case a DBS spot is dropped on the filter paper, then you can push it into a cryotube using a sterile disposable loop, sterile wooden stick or sterile tweezer without touching the cut spot to prevent contamination.
4. Add a desiccant into the cryotube to keep the punched discs dry.
5. Clean the DBS punching machine after punching every card by punching unused area of the Whatman card 5 times (clean area of the Whatman card with no blood). Manual puncher should NOT be cleaned with ethanol.
6. The plunger of the disc punch should be wiped clean and dry after use with a paper towel and distilled water only or after processing a maximum of 5 cards.
7. The plunger of the Disc Punch can be cleaned by wiping with distilled water after each use to prevent cross-contamination. The plunger must be fully dried before use to avoid making the punched spots wet.
8. Keep the filter paper or paper towel dry all the time covering the working and change it after processing a maximum of 5 cards.
9. Label the cryotube with a barcode label as described in SOP number 32 and place it in a 10 x 10 Nalgene cryo box.

5.0 REFERENCES

- 5.1 Mitchell, Caroline, et al. "Cross-contamination during processing of dried blood spots used for rapid diagnosis of HIV-1 infection of infants is rare and avoidable." *Journal of virological methods* 163.2 (2010): 489-491.
- 5.2 http://www.arrayit.com/Microarray_Diagnostics/Blood_Cards/blood_cards.html
- 5.3 Lim, Mark D. "Dried Blood Spots for Global Health Diagnostics and Surveillance: Opportunities and Challenges." *The American journal of tropical medicine and hygiene* 99.2 (2018): 256.

6.0 DOCUMENT HISTORY

Version	Author	Approved by	Dated
CHN69: PROCESSING OF DBS CARDS FOR STORAGE	Robert Musyimi	Caroline Tigoi	10/11/2018

