

STANDARD OPERATING PROCEDURE FOR SAMPLE RECEPTION

SOP No.	002	Version No.	V1.1
Effective Date	June 30, 2020	Review Date	June 30, 2021
	Name	Signature	Date
Written BY			
Reviewed By			
Authorised By			

Version	Date	Approved by	Brief description of the change

Annual Review

Reviewer Date Recommendations		
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Annual Acknowledgement of reading and understanding this SOP

Name	Signature	Date



1.0 Summary

This document relates specifically to the reception of samples potentially containing respiratory pathogens, including influenza or SARS-CoV-2.

2.0 Principle of the protocol

Samples being sent to the department of molecular virology may contain pathogens beyond those being tested. As such, it is important to treat every sample as potentially infectious. This means taking appropriate precautions to protect the laboratory staff, including Personal Protective Equipment (PPE) and protocols for opening and handling the samples.

3.0 Safety

All staff need to be trained and certified in the laboratory safety protocols for general work in the department of molecular virology by a qualified member of the laboratory team. This includes samples beyond respiratory pathogens, as the department could potentially be handling multiple pathogens at the same time.

ALL SAMPLES RECEIVED ARE POTENTIALLY HAZARDOUS AND SHOULD BE TREATED AS SUCH. THIS PROTOCOL WILL NOT ONLY COVER THE HANDLING OF SAMPLES THAT HAVE BEEN CORRECTLY PACKAGED BUT WILL ALSO ADDRESS HANDLING OF IMPROPERLY/INCORRECTLY PACKAGED SAMPLES.

4.0 Samples

Samples being received for respiratory pathogens may be oropharyngeal swabs, nasopharyngeal swabs, sputum samples, aspirates or blood. Samples should be contained in triple packaging, but it should not be assumed that the sample inside the packaging is intact or properly contained. The primary containment may be cracked or improperly sealed, therefore the exterior of the package may be contaminated and therefore pose a serious source of transmission of infection.

5.0 General sample handling principles

- Only authorized personnel shall access the sample reception room.
- Disinfect the laboratory bench before and after work and record in the lab bench disinfection log sheet.
- The exterior of all three layers of triple packaging box should be considered infectious and handled with gloved hands.
- Any visible bodily fluids contamination on the outside of the container should be reported to the appropriate agency, implementing partner or facility for corrective action.
- Any breaches of triple-packaging regulations should be documented in the incidence log and reported for safety purposes.
- Improper paperwork should be documented and reported for corrective & preventive action.
- Anybody with cuts or abrasions on their hands should not be working in the lab until the cuts have scabbed over and are covered with appropriate bandages.
- Personal belongings (mobile phones, lap top computers, jewelry) shall be kept at a designated clean area within the laboratory to minimize chances of contamination or infection transmission.



6.0 PPE for sample reception

Minimal PPE for receiving triple packaged respiratory samples is as follows.

- Disposable laboratory gown
- N95 or FFP3 respiratory mask
- Full face shield or goggles
- Double gloves
- Biosafety cabinet (BSC) or glovebox
- Gumboots/Medical shoes

7.0 Procedure

7.0.1 Set up

- 1. Always work in pairs
- 2. Assemble the required materials
- 3. Wear the appropriate PPE
- 4. Prepare 1000 ml of 70% alcohol as per the job aid
- 5. Disinfect the work bench with 70% alcohol and record in the bench disinfection sheet
- 6. Disinfect the Biosafety Cabinet (BSC) or glove box with 70% alcohol and the UV light for 30 minutes.

7.0.2 Handling of sample from driver or courier

7.0.2.1 Sample reception desk

7.0.2.1.1 Materials:

- Hand sanitizer
- Waste bin with a biohazard bag
- Sample reception logbook
- Gloves
- Pen
- Table and two chairs
- Timer
- Tissue paper
- 70% alcohol for disinfection
- Sticker

7.0.2.1.2 Procedure:

- Samples are received between 8:00 am and 5:00 pm, Monday to Sunday.
- Sample reception desk shall not be left unattended during working hours
- Dedicated two (2) sample receptionists at the reception desk
- Put on your mask and gloves
- Disinfect the reception desk with 70% alcohol, document and discard your gloves in the waste bin provided
- Wait for arrival of the samples triple package
- As soon as sample triple package arrives, ask the person to place it on the reception desk
- Put on your gloves
- Verify with the courier if the sample is from IDU, dead body, for medical evacuation or other.
- Attach a stick on the triple package box indicating **EMERGENCY** or **GENERAL** sample



- Register the sample in the sample reception logbook with the required details
- Ask the courier to return after 30 minutes to pick the triple package box
- Deliver the triple package to the sample reception window and return to your workstation.
- Dispose of your gloves in the waste bin provided.
- Disinfect the reception bench each time new sample is received.

7.0.2.2 Sample reception room

7.0.2.2.1 Materials

- Jik solution, diluted to 5,000 parts per million (ppm) or (0.5% JIK)
- 70% alcohol
- Spill tray containing paper towel soaked in 70% alcohol.
- Bench coat underneath the tray and adjacent surfaces
- Waste container for packaging
- Laboratory permanent marker
- Timer
- Pen
- Pair of scissors
- Pre-printed labels in quadruplets
- Hand paper towels
- Liquid soap
- Relevant lab record books and forms
- A scanner and a desktop computer

7.0.2.2.2 Disinfection of work benches at the sample reception room

- 1. The reception bench and work surfaces must be disinfected with 70% alcohol first thing in the morning, at the end of the day and whenever new samples are received.
- 2. The sample reception room needs 3 staff at minimum; one for documentation desk, one for glovebox and one for workbench.
- 3. Put on the correct PPE (masks, goggles, double gloves, N95/FFP3 and disposable gown)
- 4. Disinfect the glove box with 70% alcohol and document
- 5. Place a spill tray on the workbench, place the paper mat and spray with 70% alcohol
- 6. Place a paper mat inside the floor of the glove box OR BSC and spray with 70% alcohol

7.0.2.2 .3 Reception and Disinfection of the Sample Triple package

- 7. Pick the sample triple package from the sample reception window
- 8. Place the sample package on the designated sample reception bench according to the predetermined handling preferences as follows:
 - a. Emergency samples: IDU, death and medical evacuation cases
 - b. General samples: Suspects, Contacts, Follow up and screening
- 9. Working on one triple package at a time, pick and place it on the spill tray. If the sample forms are on the exterior of the triple package, remove and place into a plastic sleeve immediately and place on a designated bench for verification.
- 10. Spray the triple package with 70% alcohol and leave for 5 minutes.
- 11. Carefully remove the adhesive from the exterior of the package, then open the flaps of the box one at a time, one person spraying each flap upon opening and leave for 5 minutes.
- 12. Spray the top and bottom of the biotainer and leave for 5 minutes.



13. Transfer the biotainer into the BSC or glove box and place it on the soaked paper mat

7.0.2.2 .4 Verification of information completeness on form and sample

- 14. One person sits at the glove box to check if each sample container is labeled and has a swab inside. If no swab or unlabeled, reject the sample, proceed according to the sample rejection criteria in the appendix.
- 15. Check and read the container sample details (name and or ID # and age) while the second person crosschecks the information on the lab request form simultaneously to ensure name, and or ID # and age are the same both on the Laboratory request form and the sample container before assigning the lab numbers.
- 16. Write the date and time of sample reception on each form.
- 17. The second person should also verify each laboratory form for completeness.
- 18. For each sample, attach the pre-labelled sample laboratory numbers to the **sample container**, **laboratory request form**, **case investigation form (CIF) and sample storage logbook** at the same time. Sample lab numbers should be assigned sequentially.

7.0.2.2 .5 Packaging samples for storage and delivery to the testing laboratory

- 19. Repackage the samples into Zip lock bags; each zip lock bag should not exceed 24 samples.
- 20. Label the zip lock bag with range of laboratory numbers, batch number and sample reception date.
- 21. Emergency samples should have their containers and forms coded red. The samples should be put in a separate colour-coded zip lock bag and labeled "**EMERGENCY**" in capital letters and with RED marker pen.
- 22. Complete the sample storage Logbook: Date, Laboratory number, batch number, freezer number and compartment code, stored by (initials and Date). Leave the Date of sample retrieval for processing and collector initials to be filled on the retrieval date.
- 23. Place the Laboratory request forms, and the case investigation forms in the respective pigeonholes for collection by the Laboratory and PHEOC data team designated persons respectively.
- 24. The designated persons must sign to acknowledge forms collection and counter signed by one of the sample reception staff.
- 25. Alternatively, for step 23-24, if a scanner becomes available, one person scans the accepted and rejected forms in two separate shared folders accessible by PHEOC and Laboratory data teams.
- 26. Store the batched samples according to date of sample reception in the designated freezers.
- 27. Store the Emergency samples in the designated compartment of the freezer.
- 28. Disinfect the triple package containers according to SOP and place in a designated place.

7.0.2.2.6 Sample retrieval for processing

- Laboratory manager or designee collects samples from the sample reception room.
- Cross-checks the sample storage and retrieval logbook if there are samples for processing
- Retrieves emergency samples first in the designated freezer followed by general samples according to date of reception.
- Complete the column for date of retrieval for processing.



8.0 Handling / disposing of waste.

- External packaging and biotainers, along with the bubble wrap are recyclable, and should be returned to WHO or the concerned person following decontamination with 0.5% JIK
- All Wastes should be placed in biohazard bags and taken to the incinerator. Refer to waste management SOP from IPC pillar for details.

9.0 Spill management

- 1. In case of any spill, stop work, and lock the entry into the laboratory.
- 2. Place a notice to inform people to wait for 30 minutes during spill management
- 3. Cover the spill with paper towel and spray with 0.5% jik, leave for 10 minutes
- 4. Collect the contaminated paper towel, and place into a biohazard bag and seal.
- 5. Place the primary biohazard bag into a secondary biohazard bag, and seal immediately. This is to prevent leakage.
- 6. Transfer immediately to the designated waste area for incineration.
- 7. Remove PPE, to allow greater room for movement. Spray between each step.
- 8. Place disposable PPE components into a biohazard bag and take to the incinerator.
- 9. Place reusable PPE into the 20L bucket containing 0.5% jik and seal the bucket.
- 10. Re-open the sample reception room and continue work

10.0 Criteria for Sample rejection

All samples must meet the correct integrity for testing to guarantee reliability of test results. Once samples are received, they must be assessed against the rejection criteria. **Only accepted samples should be assigned laboratory numbers and submitted for analysis.**

Complete the sample rejection form for any rejected sample and submit to lab manager or designee for approval.

The following are reasons that may lead to sample rejection:

- 1. No swab in the sample container
- 2. Unlabelled sample container
- 3. Sample collected in a wrong transport media
- 4. Wrong type of sample collected
- 5. Received sample is older than seven (7) days from the date of collection.
- 6. Improper triple packaging, eg leaked sample
- 7. Mismatch of patient details (Name/ID # and age) on form and sample container
- 8. Sample submitted without lab request form
- 9. Incomplete forms (missing information) that sender failed to provide the missing details.
- 10. Other, specify____

NOTE

- Samples rejected must be reported to the laboratory manager immediately for validation of the rejection
- The laboratory manager shall communicate the rejection to the source and explain corrective measures as necessary within 24 hours



• ALL incomplete case investigation forms shall be given to the PHEOC designated person for follow up

11.0 Appendices

