ROYAL CENTRE FOR DISEASE CONTROL

SOP No. RCDC/QMS/SOP/5.3

STANDARD OPERATING PROCEDURE FOR STORAGE, RETENTION AND DISPOSAL OF BIOLOGICAL SAMPLES

Version 1.00

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1. ACRONYMS AND DEFINITION

OSHA - Occupational Safety and Health Administration

PPE- Personal Protective Equipment

RCDC- Royal center for disease control

QMS- Quality management system

SDS-Standard Data Sheets

WHO- World Health Organization

SOP-Standard Operating Procedures

2. PURPOSE

This SOP is developed for the Storage, Retention and Disposal of laboratory samples at Royal Centre for Disease Control

3. APPLICATION

The SOP ensures the proper procedures for the storage, retention and disposal of laboratory sample at RCDC

4. RESPONSIBILITIES

It is the responsibility of each laboratory personnel at RCDC to follow this SOP for storage, retention and disposal of laboratory samples at RCDC.

5. PRINCIPLE

The samples must be stored and retained underappropriate condition and for defined duration of time.The samples must be disposed as per the ***Waste Disposal SOP (RCDC/GMS/QSE/SOP-2.5)***

6. ASSOCIATED DOCUMENTS

- Recommendation Table for storage of different biological samples ***Annexure 1***
- Sample storage inventory log form***Annexure 2***
- Temperature log for refrigerators and freezers with display ***Annexure 3***
- Temperature log for refrigerators and freezers without display ***Annexure4***

7. PRECAUTIONS

All individuals dealing with samples must wear Personal Protective Equipment (PPE).

8. EQUIPMENTS AND REAGENTS

- Freezers -20°C,-40°C, -80°C and - 150°C
- refrigerators +2°C to +8°C

9. PROCEDURE

9.1 SAMPLE REPOSITORY

- Any biological samples received in RCDC should be considered highly infectious.
- For storage, refer *annexure I*
- For repository; Prepare and aliquot the respective samples in suitable standard container as per the required volume.
- Specimens held for testing in the laboratory or awaiting aliquoting/archiving should be placed in labeled racks/cryo-boxes at the appropriate temperatures.
- All samples must be clearly labeled and sealed before being placed in a fridge or freezer.
- The storage of samples in bags or on trays should be avoided wherever possible.
- Temperature of refrigerator and freezer should be monitored daily and recorded in the temperature log *Annexure 3and 4*
- Records of sample locations will be retained in log form*Annexure 2*

- Register the samples, before placing it in the freezer and after the removal from the freezer
- Maintain record of samples when in and out for testing and referral.
- All specimens are stored in the refrigerator and freezer within secure area where only authorized staff have access.
- Sample retention for longer duration should be stored at -20°C,-40°C, -80°C and - 150°C depending on samples.
- Store any samples prior to testing at 2-8°C in refrigerator
- Use15 % or 20% Glycerol in LBBroth for storage of culture isolates at -80°C in Deep freezer.
- Aliquot and store throat swab samples of Influenza virus at 80°C Deep Freezer.
- Aliquot and store influenza virus isolates at -150°C in Deep Freezer
- Aliquot and store serum / plasma samples at -80°C in Deep Freezer
- Revived the samples as and when required for further testing or referring to reference lab.

9.2SAMPLERETENTION

- Routine samples are retained for a minimum of one week from the date they are tested and should be refrigerated or frozen before being discarded by the laboratory.
- samples collected for study/surveillance or any other research works should be stored and retained as prescribed in the study protocol
- Sample freeze/thaw cycles must be monitored, as samples may deteriorate under these conditions.
- Organized and accessible system log should be maintained for tracking the samples.
- The inventory of stored samples should be reviewed at specified intervals to determine when they should be discarded

9.3 SPECIMEN DISPOSAL

- All clinical samples should be treated as infectious waste and wear proper PPE
- The sample received in the centre is categorized as infectious and non-infectious and are disposed accordingly.
- Collect all infectious waste in red biohazardbag, seal it, autoclave and dispose
- Collect all non-infectious dry wastes in Green biohazard bag, seal it, and dispose it into the municipal wastes directly
- Discard all Sharp waste in Sharp bin seal it, autoclave and dispose All Culture, sample tubes and glass slides are decontaminated in 0.5% Hypochlorite solution overnight,autoclave, wash and sterilized
- All autoclaved waste should be clearly labeled as sterilized and placed in a secure, separate area prior to incineration *(Refer Waste Disposal SOPs)*

Annexure I: Table for storage of different samples (QSE/Table-5.3)

Sl. No.	Sample Type	Storage Condition	Duration	Remarks
1.	Stool Sample in mCB	2°C to 8°C	NMT 1 week	
2.	Aliquot Stool/Culture Isolates 15 % LBB /PCR positive samples	-80°C	NMT 5 years	
3.	Throat Swabs	2°C to 8°C	NMT 1 week	
4.	Throat Swabs	-40°C	5-10 Years	
5.	RNA/DNA Template	-20°C	NMT 2 weeks	
6.	Virus Isolate	-150°C	NMT 5 Years	
7.	Serum/Plasma/CSF	2°C to 8°C	NMT 1 week	
8.	Serum/Plasma/CSF	-20°C	NMT 2 years	
9.	Serum/Plasma/CSF	-40°C	NMT 5 years	
10.	Serum/Plasma/CSF	-80°C	NMT 10 years	
11.	Sputum	2°C to 8°C	NMT 1 week	
12.	Urine	2°C to 8°C	NMT 1 week	
13.	Body Fluids/CSF	2°C to 8°C	NMT 1 week	Run immediately
14.	Tissue	2°C to 8°C	NMT 1 week	
15.	FNAC	2°C to 8°C	NMT 1 week	
16.	PUS	2°C to 8°C	NMT 1 week	
17.	Water	2°C to 8°C	NMT 24 hours	
18.	RTE food	2°C to 8°C	NMT 2 weeks	
19.	Drug Samples (Tablets & Capsules)	Room Temperature	Until Expiry Date	
20.	Drugs Samples(Liquid Dosage Form)	2°C to 8°C	Until Expiry Date	

Annexure 2 Sample Storage Inventory log (QSE/log-5.3)

Sample storage inventory log

Section.....

Cryo box Number:.....

Freezer/Refrigerator ID..... Temp;.....
Location..... Sample type.....

Sample purpose .....

Cryobox Map

	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Sample in/out record

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Annexure 3 Temperature log for refrigerator and freezer with display(QSE/log-3.5)

TEMPERATURE LOG FOR REFRIGERATOR AND FREEZER WITH DISPLAY

YEAR :

EQUIPMENT :

ACCEPTABLE RANGE :

Month;

	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Morning	Display TEMP																															
	External TEMP																															
	Initials / time																															
Evening	Display TEMP																															
	External TEMP																															
	Initials / time																															

Annexure 4 Temperature log for refrigerator and freezer without display(QSE/log-3.6)

TEMPERATURE LOG FOR REFRIGERATOR AND FREEZER WITHOUT DISPLAY

YEAR :

EQUIPMENT :

ACCEPTABLE RANGE :

Month;

	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Morning	TEMP																															
	Initials / time																															
Evening	TEMP																															
	Initials / time																															

10. REFERENCE

- Laboratory Waste Disposal Guidelines – UOW (https://documents.uow.edu.au › public › documents › doc › uow136684)
- Laboratory Sample Management - World Health Organization(https://www.who.int › ihr › laboratory_quality › 5_b_content_sample_mgmt)