 RWANDA BIOMEDICAL CENTER A Healthy People. A Wealthy Nation National Reference Laboratory (NRL) Division	Title: Specimen Management for Laboratory Diagnosis of Ebola and other Viral Hemorrhagic Fevers			
	SOP Number: NRL-ADM-SOP-057-VERS 001	Effective Date: 20/08/2014	Review Date: 20/08/2016	Pages: 18
	Prepared and signed by: Therese MUKANKWIRO	Authorised and signed by: Mr Edouard NTAGWABIRA Ag. Head of NRL-Division		

Revision History			
Revised by	Version number	Effective date	Description of change
NA	001	12/08/2014	N/A

1. Introduction

Ebola virus causes acute viral syndrome, known as Ebola hemorrhagic fever (EHF). EHF is a severe disease, with or without hemorrhagic symptoms, characterized by person to person transmission through close contact with patients, dead bodies or infected body fluids. The case fatality of EHF is over 50%. The epidemic potential of EHF can be prevented through proper management in health care centers such as rapid investigation and strict follow up of contact, patient isolation and rigorous use of universal safety precautions. The purpose of this SOP is to provide guidance for proper management of Ebola and other viral hemorrhagic fever (VHF) specimens or samples from labelling, collection, handling, transport, storage and shipment to the Referral laboratory.

2. Scope

This SOP applies to laboratory staff involved in sample labeling, collection, packaging, transport, storage and shipment to a Referral Laboratory with capacity to confirm Ebola and other VHFs.

3. Definitions/abbreviations

EHF: Ebola Hemorrhagic Fever

VHF: Viral Hemorrhagic Fever

NRL: National Reference Laboratory

SOP: Standard operating procedure

PPE: Personnel Protection Equipment

4. Responsibilities

Task	Person responsible
Ensure that all relevant people have read this SOP, are trained accordingly and that this is documented appropriately	Head of NRL division and designated Coordinator of Laboratory Epidemics Response Team
Ensure proper collection, packaging and transport of EHF sample	All lab staff involved in outbreak investigation
Ensure proper storage of EHF sample	Designated Coordinator of Laboratory Epidemics Response Team and designated Field investigation Team leader
Ensure proper referring of EHF sample	Designated Coordinator of Laboratory Epidemics Response Team and designated Field investigation Team leader

5. Procedures

5.1 Principle:

Two types of samples should be collected whenever possible. Acute phase whole blood obtained from a patient within 7 days of onset of illness and Convalescent sera collected from patients at least 14 days after onset of illness. Each collected blood sample must be properly coded and dated for easy link to the corresponding individual record of the case report.

Collect from the first suspected VHF case. If more than one suspected case, collect until specimens collected are 5–10 suspected cases. Collect acute-phase specimen from patient admitted to hospital or diagnosed as suspected case. Collect convalescent-phase specimen at death or when discharged from the hospital.

5.2 Materials needed by location

At Entrance Changing Room area:

1. Personal Protective Equipment (PPE)
2. Permanent marker
3. Supplies box for all lab materials

Within Patient Isolation room:

4. Tourniquet

5. Sterile gauze pads/ cotton
6. Alcohol pad (70% isopropyl alcohol)
7. Disposable ziplock bag from the Biojar
8. Sterile Vacutainer needle and holder
9. Labelled K₂EDTA Vacutainer (4ml Purple top tube)
10. Adhesive plaster

11. Spill kit (i.e. plastic biohazard bag with 2 pair of gloves, absorbent material/ soft tissue paper and 50ml falcon tube with 10% bleach)
12. Safe box for sharp biohazard waste
13. 30ml of 10% formalin in falcon tube for biopsy
14. 1 Pair each of scissors and tweezers
15. Case report form (*See Annex 1*)
16. Envelope A4 size for completed Case report form(s)
17. Disposable pen
18. Bio Transport container transfer of envelop with completed Case report and collected sample in disposable ziplock bag

At Exit Changing Room area:

19. Biojar (secondary container of the Triple packaging (UN 2814)
20. Gloves
21. 10% bleach in 1 Liter spray container
22. Absorbent soft tissue paper
23. Envelope A4 size

Outside Isolation area:

24. Tertiary container of the Triple packaging (UN 2814) with frozen ice packs
25. Biohazard bag (Red color, large size for protecting Triple packaging container surfaces from dirt)
26. Cellotape/ Scotch for sticking labels
27. Vehicle for sample transportation

5.3 Samples

- Venous blood
- Skin snip biopsy*

*to be collected exclusively by Medical Pathologist and referred for laboratory examination

5.4 Special biosafety precautions

When EHF or VHF is suspected:

- a) All personal effects including cell phones, wrist watch, ornaments and pens must be left ***outside the Isolation facility area;***
- b) Always put on full PPE gear and keep to the laboratory safety practices to avoid any contact and contamination through biological fluids from the patient. PPE gear must include full face shield or goggles, masks to cover all of nose and mouth, gloves, fluid resistant or impermeable gowns as per protocols;
- c) Before attempting any sample collection, the lab technicians must prepare and only carry items needed for sample collection per patient in the disposable ziplock bag (s) and deploy the Biojar on a table/ bench in the ***Exit changing room area.*** Any leftover sample collection material must be discarded as biohazard waste;
- d) The use of labels prepared in advance for both the collection of clinical samples and case report forms is recommended;
- e) The tertiary container of the Triple packaging (UN 2814) should always be located outside the isolation facility and replenished with frozen ice packs every 24 hours to maintain cold chain;
- f) The use of sealed sterile dry Vacutainer tubes is strictly recommended. **DO NOT** attempt to draw blood from patient using a hypodermic syringe into a Vacutainer tube;

- g) Patient should be located in the ***Isolation area*** before specimen collection;
- h) No collected specimen/ sample should be handled for any other laboratory examination unless under appropriate biosafety measures to minimize risk of infection to laboratory staff during sample manipulation;
- i) The patient sample collection to packaging procedures must be conducted by at least 3 trained laboratory technicians to work as follows: the first two lab technicians work as a 1) Phlebotomist and 2) Phlebotomy Assistant and work together to label, collect and prepacking of sample into disposable ziplock bag and secondary container (Biojar). The third lab technician remains outside isolation area and assists the packaging of Biojar into the tertiary container of the Triple packaging (UN 2814);
- j) Any spills or splashes of sample materials should be immediately cleaned up with absorbent soft tissue soaked with 10% bleach.

5.5 Working procedures

5.5.1 Blood sample collection procedure

Before putting on PPE

- a. Remove watch, jewelry and extra clothing like jackets, jerseys and hats
- b. Leave cell phones behind
- c. Wet hands with soap and water
- d. Rub all surfaces for at least 20 seconds
- e. Rinse well
- f. Wash forearms and face
- g. Towel or air dry
- h. Label the Vacutainer tubes for patient sample collection using permanent marker with appropriate serial code as RWA ### (eg. RWA 001, RWA 002). See the Sample log maintained at NRL to provide the update on label code to be used
- i. Place labeled tubes, cotton gauze, Vacutainer needle and holder, adhesive plaster and alcohol pad in a disposable ziplock bag as needed for an equivalent number of patients waiting blood draw. **DO NOT ADD ANY EXCESS MATERIAL** otherwise if not used should be discarded as waste after sample collection procedure

Put on PPE (Donning): Location - Entrance Changing Room Area

- j. Enter the changing room and put on your PPE following this Sequence:
 - a. Coveralls
 - b. Shoe covers
 - c. Respirator
 - d. Goggles
 - e. Pull hood over head
 - f. Apron
 - g. 2 pairs of gloves

Blood Sample Collection: Location - Patient Isolation Room

- k. Two lab staff promptly dressed in the PPE to enter the patient isolation room. They take up and are designated into two separate roles of a Phlebotomist and Phlebotomy Assistant as further described below:
 - a. The Phlebotomist to carry out the sampling and the Phlebotomy Assistant assists by providing the phlebotomist all necessary material for the sampling. Carry all the blood collection supplies in the disposable ziplock bag and a tourniquet
 - b. The Phlebotomy Assistant completes the Case report form through an interview of Patient/ immediate Health Care Provider, ensures all waste is delivered into safe box and at the end of sampling procedure, holds the disposable ziplock bag open to receive the blood sample drawn by Phlebotomist
- l. Sampling procedure by Phlebotomist commences as follows:
 - a. Prepare the patient with a brief verbal description of sampling procedure and request him/her to expose the entire arm for venipuncture. Ensure minimal contact with patient garments while identifying a suitable vein site for the blood draw
 - b. Place a tourniquet above the venipuncture site, palpate and locate the vein
 - c. Disinfect the skin at the puncture site with alcohol (70%) and allow the area to dry
 - d. Perform venipuncture using a sterile Vacutainer needle
 - e. Collect 4ml of blood into purple top tube and mix gently and place into empty ziplock plastic
 - f. The Phlebotomy Assistant closes the disposable ziplock bag tightly with collected blood sample and transfers it as well as the envelop A4 with complete Case report form to the ***Exit Changing Room area for packing into Biojar***
 - g. Remove the tourniquet and apply pressure to bleed site with sterile gauze pad/cotton and remove the needle with holder
 - h. Discard the needle with holder and gauze pad/ cotton into safe box for sharp container and tourniquet into the infectious waste bin
 - i. Apply adhesive plaster on the bleeding site of the patient's arm
 - j. The phlebotomist disinfects the gloves using 10% bleach sprayed on absorbent soft tissue paper and discards the used paper into infectious waste bin
 - k. Move to the envelope A4 with completed Case report and collected sample sealed in the disposable ziplock bag on Bio transport container to the ***Exit Changing Room area for packing into Biojar***. These items are transferred by the Phlebotomy Assistant and also conduct the following steps of sample prepacking into Biojar. The Phlebotomist remains observing awaiting to remove the PPE once completed this procedure

Sample prepacking into Biojar: Location Exit Changing Room Area

- l. Place the Bio Transport container on a table/ bench and open the Biojar
- m. Remove the absorbent packing in the Biojar and wrap sealed sample in the disposable ziplock bag in the absorbent packing
- n. Place the absorbent packing with wrapped sample into the Biojar and close tightly
- o. Disinfect the external surfaces of the Biojar with 10% bleach sprayed on soft tissue paper
- p. Discard the used soft tissue paper into the waste bag of the PPE and remove PPE
- q. Transfer the completed Case report form into a new Envelope A4 and discard the old envelope appropriately

Removing PPE (Doffing): Location – Exit Changing Room area

- r. Remove the PPE in the following sequence:
 - a. Apron
 - b. Shoe covers
 - c. Outer gloves
 - d. Coveralls
 - e. Goggles
 - f. Respirator
 - g. Inner gloves
 - h. Tie off biohazard bag
- s. Wash hands with soap and water
- t. Transfer the Biojar and Envelop with Case report to the outside. Ensure that the biohazard bag with used PPE is disposed appropriately

Specimen Packing into Triple packaging (UN 2814): Location – Outside Isolation area

- m. The Phlebotomist carries the envelop and Phlebotomy Assistant carries the Biojar and all move out to the outside of Isolation facility
- n. The third lab staff remaining on the outside of the isolation opens the triple packaging to expose the frozen icepacks and Biojar holding position
- o. The Biojar is placed into its position in the Triple packaging by the Phlebotomy Assistant and the covered by the third lab staff
- p. Place the new envelope with the completed Case report form in the inner top outer surface of the tertiary container of the Triple package (UN 2814)
- q. Place the Triple packaging in a large RED Biohazard bag and transport in specific vehicle to the NRL
- r. Prepare and label appropriately on the Triple package (UN 2814) with Shipper and Consignee address (*see Annex 2*)
- s. Print the accompanying shipment documents for Air freight (*see Annex 3 and 4*)

5.5.2 Skin Snip Sample Collection

N.B: This is a post mortem sample from deceased patient.

- a. The skin snip performed by a medical officer or clinician experienced in the procedure and the lab staff will be in charge of sample management, transportation and shipment. For safety, all of the supplies used to perform the skin snip are for single use only
- b. Ebola virus can be detected in fatal cases from a skin specimen using an immunohistochemistry test developed by the Centers for Disease Control and Prevention (CDC) Infectious Diseases Pathology Activity
- c. Skin specimen from a cadaver will be collected by a qualified pathologist/clinician
- d. Obtain consent from the family of the deceased patient
- e. Arrange all necessary materials: Disinfectant 10% bleach, scissors, tweezers, plastic waste bag and biopsy tool for use near the cadaver
- f. Put on the PPE following sequence as described

- g. Enter in the isolation room for patient and fill the Case report form
- h. All universal precautions will be adhered when sampling skin specimen
- i. Clinician/pathologist will collect the skin snip and Lab staff will open falcon container with 10% formalin for the clinician/pathologist put the sample
- j. The skin specimen is fixed in 10% formalin (30ml) in closed 50ml Falcon tube. The specimen is placed in formalin and the outside of the vial specimen container must be decontaminated using 10% bleach
- k. The triple packaging is used to handle the Biopsy sample as it is done for blood sample above

5.5.3 Storage of Sample at NRL

- a. All VHF suspect samples will be stored in a secure room at NRL with lockable doors (Influenza Lab)
- b. The specimen will remain in the triple package and if necessary ice packs will be changed after 24 hours by the third lab staff in charge of sample packaging. Extra ice packs will be stored in the freezer (4MB in Influenza Lab corridor)
- c. A log register will be maintained to record all personnel accessing the Influenza Lab room. A separate log will be maintained to enter the team in charge of sample collection and transportation to NRL, the time and date of sample collection, time and date of ice pack replenish and time and date of sample shipment and the initials of the lab staff doing this task.
- d. At the earliest time, the sample will be sent to Uganda Virus Research Institute (UVRI) laboratory, Entebbe
- e. All necessary documents will be obtained prior to sending the sample to the airport (e.g. export permits, import permits, airline ticket, Material Transfer Agreement)
- f. Triple package shipper will be transported from storage at NRL to the Airport directly using the most direct route in time for shipment to UVRI

5.5.4 Laboratory results report

Laboratory results for blood sample will be available after 48 hours and the biopsy sample result will be available within one week. The results are communicated to Head of NRL Division from UVRI Laboratory Entebbe.

The NRL Head of Division will communicate the results to the Chairperson, Technical Committee of the Emergency Operating Centre, Ministry of Health.

6. Team members

- | | |
|------------------------------------|---|
| I. Mr. Uwimana Innocent | V. Mr. Nzabahimana Innocent |
| II. Mr. Uwimana Jean Marie | VI. Dr Gatei Wangeci |
| III. Ms. Mukankwiro Therese | VII. Mr. Nkunda M. Richard Clive |
| IV. Mrs. Kabanda Alice | |

7. Supporting documents

- Sample management policy
- NRL Safety manual

8. References

CDC Ebola Handbook, Infection Control for Viral Hemorrhagic Fevers in the African Health Care Setting. Atlanta, Centers for Disease Control and Prevention, 1998: 1-198

The African Field Epidemiology Network (AFENET) “Outbreak Investigation Laboratory Guidelines” in collaboration with Centers for Disease Control and Prevention, 1998.

9. Signing page

We, staff members of Laboratory Epidemics Response Team, do hereby certify that we have read, discussed (where applicable) and understood the content of this SOP: NRL-ADM-SOP-057-VERS 001. We commit ourselves to abide by its spirit and shall strive to comply and make it complied with.

N°	Staff Names	Staff Signature	Date
1			
2			
3			
4			
5			
6			
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9.			
10.			
11.			
12.			

I, **Therese MUKANKWIRO**, being Coordinator of Laboratory Epidemics Response Team, do hereby certify that all the staff, as listed above, have read, discussed and understood the SOP as indicated herein.

Name and signature of Coordinator of Laboratory Epidemics Response Team:

.....

Date://

10. Amendment Page

Date	Amendment number	Amendment	Page	Section(s) involved	Author

11. Appendices

Annex 1

Viral Hemorrhagic Fever Suspect Case Report Form

Send completed form and clinical samples to:

UVRI/CDC, Attn: Viral Special Pathogens Branch, Plot 51-59 Nakiwogo Rd., P.O. Box 49, Entebbe, Uganda

UVRI	Do not complete	Site
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Date of Case Report: ____/____/____ (D, M, Yr)

Case Report Completed by:

Name: _____ Position: _____
District: _____ Health Facility: _____
Phone: _____ E-mail: _____

Section 1. Patient Information

Patient's Surname: _____ Other Names: _____
Date of Birth: ____/____/____ (D, M, Yr) **OR:** Age: _____ Years Months Gender: Male Female

Permanent Residence:
Head of Household: _____ Village/Town: _____
Parish: _____ Sub-County: _____
District: _____ Nationality: _____
Country of Residence: _____ LC1 Chairman: _____

Occupation:
 Farmer Butcher Hunter/Trader of Game Meat Miner Housewife Pupil/Student Child
 Healthcare Worker: Specialty/Service: _____ Healthcare Facility: _____
 Other, please specify occupation: _____

Location Where Patient Became Ill:
Village/Town: _____ Sub-County: _____ District: _____

Section 2. Clinical Signs and Symptoms

Date of initial symptom onset: ____/____/____ (D, M, Yr)	Fever: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk Fever onset date: ____/____/____ (D, M, Yr) If yes, temp.: _____ °C Source: <input type="checkbox"/> Axillary <input type="checkbox"/> Oral <input type="checkbox"/> Rectal
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Between symptom onset and time when sample was collected, please record:

Clinical Signs and Symptoms: (tick All that apply)

- Vomiting/nausea Yes No Unk
- Diarrhoea Yes No Unk
- Muscle or articular pain Yes No Unk
- Intense fatigue Yes No Unk
- Abdominal pain Yes No Unk
- Headache Yes No Unk
- Conjunctivitis Yes No Unk
- Skin rash Yes No Unk
- Sore throat Yes No Unk
- Difficulty in swallowing Yes No Unk
- Difficulty in breathing Yes No Unk
- Hiccups Yes No Unk
- Anorexia/loss of appetite Yes No Unk

Other clinical signs or symptoms Yes No Unk

If yes, please Specify: _____

Hemorrhagic Signs and Symptoms: (tick All that apply)

Unexplained bleeding from any site Yes No Unk

If Yes:

- Bleeding of the gums Yes No Unk
- Bleeding from injection site Yes No Unk
- Bleeding from vagina,
other than menstruation Yes No Unk
- Nose bleed / Epistaxis Yes No Unk
- Petechiae / Purpura Yes No Unk
- Conjunctivitis Yes No Unk
- Bloody stools or Melaena Yes No Unk
- Haematemesis / Vomiting blood Yes No Unk
- Hematuria (blood in urine) Yes No Unk
- DIC/Shock Yes No Unk

Other haemorrhagic signs Yes No Unk

If yes, please Specify: _____

Other Specific Signs and Symptoms: (tick All that apply)

- | | |
|---|---|
| Neurologic symptoms <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk | Pharyngitis <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk |
| Retro-orbital pain <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk | Retrosternal chest pain <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk |
| Photophobia <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk | Proteinuria <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk |
| Jaundice <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk | Ulceration of buccal mucosa <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk |
| Encephalitis <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk | Exudative Pharyngitis <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk |
| Retinitis <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk | Cervical lymphadenopathy <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk |

Please list any other relevant clinical findings:

Site

Section 3. Patient/Clinical Status

Notification of Case by: (tick All that apply)

- Passive Surveillance Active Surveillance Community Notification Hospital Notification Death Rumor
 Other, please specify: _____

Status of Patient at Detection/Admission: Alive Dead

Hospitalization:

Was patient Hospitalized? Yes No **If yes, please complete the following:**

Date of Hospitalization: ____/____/____ (D, M, Yr) Health Facility Name: _____ District: _____

Was the patient isolated upon admission? Yes No Unk Is the patient currently isolated? Yes No Unk

Date of discharge from hospital: ____/____/____ (D, M, Yr)

Current Status of Patient: Alive Dead

If Dead, please specify date of death: ____/____/____ (D, M, Yr)

Place of Death: Community Hospital Other: _____

Village: _____ District: _____ Sub-County: _____

Place of Funeral: Village: _____ District: _____ Sub-County: _____

Section 4. Epidemiological Risk Factors and Exposures

In the past **One (1) Month** prior to symptom onset:

1. Did the patient have any direct contact / exposure to the following animals?

- Bats Primates (Monkeys) Rodents Livestock Birds Other: _____

Location: _____ Date of exposure: ____/____/____ (D, M, Yr)

2. Did the patient attend a funeral? Yes No Unk Date(s) of attendance: ____/____/____ - ____/____/____ (D, M, Yr)

If yes, did patient participate in the funeral? Yes No Unk Location: _____

Deceased Person's Name: _____

3. Did the patient have contact with another known or suspect case? Yes No Unk

If yes, specify location: _____ Date(s) of exposure: ____/____/____ - ____/____/____ (D, M, Yr)

Name of case: _____ During contact, was suspect case: Alive Dead Unk

4. Did the patient travel outside their home or village/town prior to becoming ill? Yes No Unk

If yes, specify location: _____

Section 5. Clinical Specimens and Laboratory Testing

- Each specimen should be labeled with **Case/specimen ID, date of collection, specimen type, and patient name.**
- Specimens should preferably be sent **cold with cold/ice pack, and packaged appropriately.**
- **Preferred sample volume: 4ml** (Minimum sample volume: 2ml)

Send specimens to:

Uganda Virus Research Institute/ CDC
Attn: Viral Special Pathogens Branch,
Plot 51-59 Nakiwogo Rd., P.O. Box 49,
Entebbe, Uganda

Whole Blood:

1. Drawn at admission with a purple top (EDTA) tube (green or red top tubes acceptable if others are not available)
2. Post-mortem heart blood

Sample 1:

Sample Collection Date: ____/____/____ (D, M, Yr)

Sample Type:

- Whole Blood
- Autopsy tissue, specify source: _____
- Other specimen type, specify: _____

Do not complete

UVRI Only

Sample 2:

Sample Collection Date: ____/____/____ (D, M, Yr)

Sample Type:

- Whole Blood
- Autopsy tissue, specify source: _____
- Other specimen type, specify: _____

Do not complete

UVRI Only

Annex 2

BOX LABELS

SHIPPER:	Mr. Edouard Ntagwabira, Acting Head of Division Rwanda Biomedical Centre/ National Reference Lab Division Boulevard de la Revolution Kigali, Rwanda +250 252 570 399/ 414
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CONSIGNEE:	Dr Julius Lutwama Uganda Virus Research Institute/ CDC Attn: Viral Special Pathogens Branch Plot 51 – 59 Nakiwogo Road, P. O. Box 49, Entebbe, Uganda +256 752 650 251/ 772 477 016
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<p align="center">BIOLOGICAL SUBSTANCE, CATEGORY A</p> <p align="center">DO NOT OPEN IN TRANSIT</p>

UN 2814
Contents packed on Ice packs
1 Biojar containingml tube of Human blood

Annex 3



A Healthy People. A Wealthy Nation

National Reference Laboratory (NRL) Division

CUSTOMS INVOICE

Date: 21st February 2014

Shipper:

Dr. Edouard Ntagwabira, Acting Head of Division
Rwanda Biomedical Centre/ National Reference Laboratory Division
Boulevard de la Revolution
Kigali, Rwanda
+250 252 570 399/ 414

Consignee:

Dr Julius Lutwama
Uganda Virus Research Institute/ CDC
Attn: Viral Special Pathogens Branch
Plot 51 – 59 Nakiwogo Rd,
P. O. Box 49, Entebbe, Uganda
+256 752 650 251/ 772 477 016

Contents: Biological specimen (Human *Blood*)

Quantity:mL

No Commercial Value - For Customs Purposes Only \$ 10 USD

Signature and Job Title

Web site: www.nrl.gov.rw
P. O. Box 4668 Kigali-Rwanda

info@rbc.nrl.gov.rw
Tel : (250) 252 570400/ (250) 252 570414

Annex 4

REPUBLIC OF RWANDA

11 AUG 2014
Kigali, on



N°20/47-78/RBC /NRL/2014

MINISTRY OF HEALTH
P. O. Box 84 KIGALI

Director of Uganda Virus Research Institute-Entebbe
UGANDA

Through: Hon. Minister of Foreign Affairs and Cooperation



RE: Export Permit.

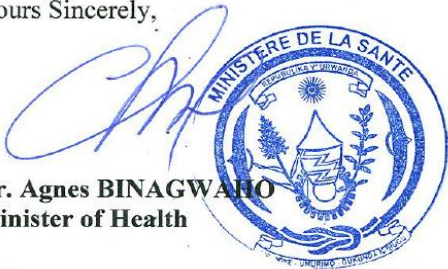
Dear Director,

This is to confirm that the Ministry of Health of Rwanda has a material transfer agreement to export a package of biological substance for detection of suspected viral hemorrhagic fever from the National Reference Laboratory Division under Rwanda Biomedical Centre in Kigali to Uganda Virus Research Institute (UVRI), Entebbe.

The biological substance is packed and placed in appropriate Biosafety container as required by International Health Regulations and stored accordingly.

Thank you very much for your kind support.

Yours Sincerely,



Dr. Agnes BINAGWAHO
Minister of Health

Cc:

- **Right Hon. Prime Minister**
KIGALI

Annex 5

An illustration of complete Triple packaging

