

Blood Processing Protocol

Laboratory of Joe Ng

Human blood will be transported into the lab with at least 3 levels of containment:

1. Vacu- storage tubes
2. Small sealed plastic storage bag for each individual tubes
3. Large sealed plastic storage bag to encase 5 or less tubes

Blood received into the lab will be recorded with the following information:

1. Volume of blood (Total and individual)
2. Time and date of arrival
3. Signature of the person receiving the blood
4. Identification of blood (barcode or other forms of notation)

Blood processing area will follow BSL-2 work practices including:

1. Furniture – Blood draw chair or table will be made of materials that can easily be disinfected (example vinyl or plastic furniture)
2. Sharps containers – An approved Sharps disposal container will be available in the blood processing area at the point of use. All glass items and needles will be disposed of in an approved Sharps container.
3. Disinfectant – Bleach solution or an EPA registered disinfectant will be available in the blood processing area in the event of a spill.
4. Spill or Emergency Procedure - A procedure to handle spill cleanup or emergency response information will be posted at the point of use and can be found at ww.uah.edu/OEHS.
5. Biohazardous Waste Disposal - Biohazardous waste bags and boxes will be used to dispose of all plastic ware and personnel protective equipment.
6. Biohazardous Signage and Labeling – All clinical laboratory spaces will be labeled with a biohazardous door sign designating the space as BLS-2. All equipment used to store and handle human blood and blood products will be labeled with a biohazardous sticker.
7. Personnel Protective Equipment – Personnel conducting blood analysis will be required to wear the appropriate personnel protective equipment (PPE). This includes liquid barrier gloves (latex or nitrile), face protection (full face shield or surgical mask and safety glasses) and lab coat or lab gown that can be laundered or disposed in event of a blood splash or spill.

Personnel conducting blood analysis

The principal investigator will be responsible for verifying that personnel performing blood processing have sufficient training and experience in conducting human blood sampling. Qualifications may include prior experience as a trained

biologists, phlebotomist, nurse or emergency medical technician. All research personnel conducting human blood processing will be required to complete blood borne pathogen training on an annual basis.

RNA isolation from whole blood

RNA isolation from whole blood will be conducted using the LeukoLOCK Total RNA Isolation System by Life Technologies. The procedure will be as directed by the manufacturer. The detailed procedure is attached at the end of this document.

Blood waste management

Liquid biohazardous blood related materials will be decontaminated by autoclaving (standard steam autoclave at 121C for 1h) or treat with an appropriate chemical disinfectant for the sufficient contact time. After decontamination, liquids will be disposed down the sink. No liquids will be put in regular trash or dumpsters.

Biohazardous blood related materials refer to:

- discarded human blood waste
- serum
- plasma
- other blood components, materials containing free-flowing blood and blood products

All liquid human blood, blood products, and related waste will be gathered in waste containers marked with biohazard sign and stored in secondary containment. Contents will be listed in the attached tag.

Items contaminated with human blood, blood products will be transported in leak-proof containers to the autoclave located on the 3rd floor autoclaves of the Shelby Center for Science and Technology.

If liquid blood, blood products and biowaste boxes are required to be picked up, we will send a request to UAH Health and Safety.

All disposable solid items including all non-sharp disposable items (such as gloves, plastic ware, Kim wipes, etc.) contaminated with biohazardous materials will be disposed in leak proof autoclavable biohazard bags with universal biohazard symbol. Biohazardous waste will be transported outside of the laboratory to an autoclave in a closed, leak-proof bag or container on a leak proof tray.