Biohazard Containment in the Flow Cytometry Lab

1. Principle

1.1. All laboratory personnel who handle human cells and other potentially infectious materials are required to follow universal precautions. This practice also applies to established cell lines that are in vitro or animal-passaged human explanted tissues transformed by spontaneous mutation or a natural or laboratory infection with an immortalization agent. All recombinant DNA experiments have to be performed in compliance with the specific NIH guidelines and have to be approved by Institutional Biosafety Committees. To protect sort operators from infection and biohazard exposure during sorting of unfixed cells, the following recommendations are given both for the person sorting and for others who may be present in the room during the sort.

2. Materials and Equipment

2.1. Laboratory coat or gown.
2.2. Gloves.
2.3. N95 respirator mask, if sorting human primary sample or lentivirus sample.
2.4. Eye protection, if splashing is likely.
2.5. Appropriate disinfectant (10% bleach or Cavicide.)
2.6. Biohazardous waste container.

3. Procedure

3.1. Wear necessary PPE (minimum is lab coat and gloves.)
3.2. Properly use the BD Aerosol Management Option (see Cytometry SOP#001.)
3.3. Following each sort, run a tube of 10% bleach through the sample line for 10 minutes to decontaminate. Follow with 1 minute of FACSRinse and 1 minute of deionized water.
3.4. Clean any potentially biohazardous spills with 10% bleach for 10 minutes.

3.5. Ensure that the waste container contains enough bleach to reach a final concentration of 10% with a full tank. Decontaminated liquid waste is disposed of in the laboratory sink.

3.6. Discard all contaminated materials (sample and collection tubes, pipettes, pipet tips, gloves into appropriate biohazard containers.

3.7. Wipe off all work surfaces with a 10% bleach solution (table surfaces) or Cavicide (cytometer parts).

3.8. Eating, drinking, or cosmetic application is not permitted in the sort facility.