

Instruction for handling all biological materials from human

Edition : 3 (1-28.06.07 . 2-22.10.09, 3- 09.07.15)

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Elaborated: Kjetil Taskén and HSE-coordinator Liv Bjørland

Approved: Centre Director Kjetil Taskén

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Protection

1. Always wear a lab coat and gloves, and always wash your hands after you have finished your work. Bear in mind that the gloves may be contaminated while working: Change you gloves often, and immediately if you spill on them. Pay special attention if you have eczema or wounds on your fingers. Do not touch telephones, handles or other lab equipment with your gloves unless you are quite sure they are completely clean. Hygienic hand wash is the most important prophylactic behaviour - also when gloves have been used.
2. Use spectacles and a mask, or pull down the screen in front of the sterile bench, to avoid possible blood spray in your face.
3. Use the “bench coat “in the LAF- bench during separation of blood and when working with Buffy coats.

Disinfection of equipment and in case of spill.

4. Use disposable equipment as far as possible. Equipment (racks etc.) used in contact with biological material, should be autoclaved if possible. Bring to the autoclaving room in closed containers. Other things are disinfected and rinsed by the user and later washed at 85° C.* If possible, separable equipment is disassembled before disinfection. Equipment which is heat-sensitive is disinfected in accordance with approved instruction from supplier.

***Disinfection by the user before washing is done to protect the staff and the environment from the health hazard due to infection.**

5. If spill on horizontal surfaces occur, cover the area with absorbing paper and soak the area with disinfectant. In the case of contaminated equipment which cannot be soaked, absorb the organic material in cell paper before performing chemical disinfection to improve the process. The paper should be disposed in yellow containers for contaminated waste. It is important that the soaking with disinfectants is visible in the whole contaminated area. For full effect, keep strictly to the recommended time of disinfection. Clean up the remnants of disinfectant.

If spill on the floor, bench or in the centrifuge act according above. The usual daily routine (without visible spill) requires washing with 70% alcohol.

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For organic solutions act according to item 6.

Disinfectants and methods

6. Chlorinated products are well suitable for hepatitis and HIV disinfection . You may use a 5% hypochlorite solution for 1 hour, but remember that chlorinated compounds are easily inactivated by organic material. At BiO we therefore use an oxidative compound, Virkon, which is far less sensitive to inactivation. Invisible contamination is treated with 1% Virkon for 10 min. Visible contamination is treated with 1% Virkon for 30 min.

For organic material / solutions Virkon is added directly to an end concentration of 2-3 %. A active Virkon solution is pink in colour, and has been inactivated when it appears colourless.

Subsequently, use 70% alcohol and rinse. Make use of 1 % SDS in 70% dilute alcohol if you are working with known HIV- or Lenti – virus. (20% SDS is available from the Kitchen: 50mL in 1L). Alcohols are suitable for disinfection of `clean´ surfaces and objects, but has a poor ability to penetrate into organic material. New research indicates that 70% of alcohol may inactivate HIV after 2-10 min. but because of the quick evaporation the efficiency may be too poor.

Biological waste

7. For biological waste act according to instructions. When working with known HIV-infected samples, isolate your samples in a closed box for decontamination in Virkon before you put it in the yellow boxes for biological waste/contaminated materials. Do not overfill the boxes. Puncturing or cutting equipment should be put in their own protection/containers and never fill up more than 2/3 of the volume. Do check the lid, it has to be firmly clicked on to close properly to avoid spreading of the content. Disinfected HIV material does not need to be declared for transport.

General rule

8. Cells from persons working at the centre should not be used in research (for example sampling of blood). If you use blood from persons in the Lab, this blood is not tested as it is routinely done for blood from the blood bank.

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HIV-work

9. When working with known HIV-infected material act according to step 1-7. The room has to be labelled with the biological health hazard sign. Remember to label specifically if keeping your work going in incubators etc. Short- time cell cultures (< 5days), which do not involve virus replication, may proceed in an ordinary Class II safety cell lab. **Cell cultures of virally infected cells that exceed 5 days of culture are not permitted at the Biotechnology centre.**

10. Concerning the instruments which have contact with blood products, refer to procedures from supplier for safety and decontamination. Pay special attention when unfixed cells are used in the instruments.

11. Clothes contaminated with known HIV-infected material are put in a bag and a bucket for autoclaving. Close both and mark the bucket with autoclave tape and the type of virus.