DNA: Housekeeping

Introduction

The following housekeeping procedures are used to help protect DNA samples from being destroyed, deteriorated, or compromised.

Gloves and laboratory coats

Gloves should be changed frequently when handling evidence and reference items.

Laboratory coats should be changed on a regular basis. All used lab coats are placed in designated bags in the laboratory storage area for pick-up and laundering by an outside laundry service.

White lab coats are designated for use in the extraction and set up areas.

Blue lab coats are designated for use in the amplification/typing room.

Reusable tools

All reusable tools (for example, forceps and scissors) are cleaned with bleach or ethanol and deionized water prior to use and after handling each specimen.

Pipettes

Pipettes are cleaned on a regular basis.

Pipette tips

Only barrier tips are used when pipetting samples. Tips are changed between samples. An analyst should use caution when using a single pipette tip to dispense reagents between samples.

Centrifuges

The centrifuges used in the DNA unit are cleaned routinely with ethanol.

If a spill occurs, the surfaces are wiped with ethanol followed by a 10% bleach solution prior to further use.

Micro-centrifuge tubes

All microcentrifuge tubes should be opened with a de-capping tool only. Only sterile tubes are used.

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Thermal cyclers

The thermal cyclers are wiped down routinely with ethanol.

Areas to be cleaned are

- the heating block
- outer surfaces of the instrument
  - Individual wells are cleaned as needed.

Extraction fume hood

The hood used for phenol/chloroform extractions is periodically cleaned with 10% bleach or ethanol. Clean absorbent disposable pads are placed over the cleaned area prior to use.

Biosafety cabinet

After each use, the biosafety cabinet is cleaned with water and then with ethanol. Pipettes and decappers used in the biosafety cabinet are wiped down with ethanol.

DNA spills

A DNA spill, either extracted or amplified, requires immediate attention.

- The spill is wiped up with absorbent paper wipes.
- The affected area is then cleaned with a 10% bleach solution by flooding the area with bleach and allowing it to stand for at least 10 minutes.
- The area is then wiped up using absorbent paper.

Extraction and set-up area bench tops

Bench top surfaces used for extraction and set-up are thoroughly cleaned with ethanol or bleach before a case is started and as needed during examination.

Clean absorbent disposable pads are placed on the bench top work area prior to examination.

Amplification/ typing room bench tops

All bench top surfaces are periodically wiped down with water and then with ethanol. After wiping, a clean absorbent disposable pad should be placed on the bench top.

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Disposable mops

Disposable mops are used to clean the floor in the amplification/typing room. The disposable mops are discarded and removed from the laboratory in a plastic garbage bag.

Glassware cleaning

The general procedure for cleaning glassware is as follows.

Step	Action
1	Wash glassware with laboratory detergent. Heavily soiled items may be soaked for several hours.
2	Rinse with tap water.
3	Re-rinse with deionized water.
4	Allow to dry.

NOTE: For many applications, washing with a mild detergent will remove grease and oil. When more rigorous cleaning is needed, organic solvents may be used. This is then followed by the regular cleaning procedures described above.

Autoclave

The operating temperature of the autoclave is checked semi-annually by an outside vendor. Results are recorded and provided by the vendor and maintained by the technical leader.

- The desired temperature range should be within ±5°C of the displayed temperature. If the temperature is out of the desired range, refer to the instruction manual.

For instructions for use, refer to the autoclave operating manual located in the buffer preparation area.

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Autoclaving containers

Glass and appropriate types of plastic containers may be autoclaved. Polycarbonate may be autoclaved, but the cycle should be limited to 20 minutes at 121°C.

Small items may be autoclaved inside a beaker covered with foil.

Containers with solutions should not be filled to more than 75% of capacity.

NOTE: Solutions containing dithiothreitol or detergents should not be autoclaved.

All items should be carefully cleaned before autoclaving. The cap or closure should be set on top of the container without engaging the threads. An autoclave indicator is attached to the container.

Non-hazardous waste

Non-hazardous waste is removed from the amplification/typing room by the technical staff and not the janitorial staff.

Biohazard waste disposal

Refer to *BBP: Housekeeping Procedures* in the *Safety Manual* for the procedures to dispose of biohazard (potentially infectious) waste.