

# The Dos and Don'ts in Our Labs

P. Kast, April 26, 2006

Please always obey this set of rules. Pass this information on to newcomers to the lab.

## A. Infrastructure and Common Sense Procedures

- A-1 when **borrowing equipment**: **ask** "owners", or leave at least a **note**; bring borrowed equipment **back** immediately after use
- A-2 when **borrowing consumables**: **refill** stocks you depleted in other labs (e.g. gel developing solutions)
- A-3 **never** change settings of an incubator/instrument **in use** by someone else
- A-4 if changing a default setting, **set it back** after use of the instrument
- A-5 only reserve instruments if you really **use** them; respect reservations of others
- A-6 **clean up** your mess in general areas: **balances, around instruments, media kitchen** (close bottles very well, media powders are extremely hygroscopic!), etc.
- A-7 **order replacements** for used-up reagents/plasticware; inform the NMR superuser once you take the second last bottle of NMR solvents
- A-8 have broken equipment **repaired**
- A-9 when ordering above a threshold value (currently CHF 200.-), obtain a signed "Budget Depletion Request" form from Don or Peter.
- A-10 **restrict printing/copying** to necessary laboratory use; minimize (expensive) **color** printing; print double sided, if possible
- A-11 any samples left or incubated in general areas **must be labeled with your name, contents and date**
- A-12 F329 is primarily a **seminar** and **paper work** room; anybody who brings food to share is certainly welcome to use this room, too, but it is an **obligation** that **this person** leaves the room in a **spotlessly clean** state; **any food left in F329** for sharing with others **may only stay on the bench with the coffee machine**
- A-13 **clean/empty rotavaps** after use
- A-14 before leaving the lab at the end of the day, think about the instruments you have used, and make sure they are either in standby mode, or switched off according to the individual instrument instructions
- A-15 before leaving the lab at night, make sure you tidy up your bench and hood so that this space can be used by someone else, if needed

## B. Treatment of Instruments/Equipment

- B-1 **before using an instrument, get instructions from a previous user, or from the person responsible for the device** (check the Instrument Responsibility List)
- B-2 **always balance** centrifuge rotors and quick spin devices; **never exceed max. velocity** recommended for specific rotor
- B-3 acid, base and some organic solvents will **destroy** (corrode, dissolve) your **pipetmen**
- B-4 leave the **-80°C freezer** open only for the **minimum** time necessary; make sure its door is **shut** completely; if the **alarm** goes off, take the necessary steps (see instructions on freezer)
- B-5 strictly observe the rules for **flushing the lamp of the CD spectrophotometer** with N<sub>2</sub> (the last repair was CHF 40,000!)

- B-6 **cuvettes** of the fluorimeter, UV spectrometers, etc. break quite easily if dropped
- B-7 **big autoclave**: only power up before actually using it (preheating takes about 20 min); switch it off afterwards; do **not** let it run **overnight**
- B-8 for autoclaving, use the **sign-up booklets**; do not use the **dry cycle** for materials containing water; always **clean up** afterwards (discard trash!)
- B-9 **HPLC/FPLC/LCMS**: **filter/spin down** your samples; use **pre-columns**; don't let columns and pumps **run dry**; carry a timer with you as a reminder
- B-10 **wash all FPLC columns** with (degassed) 20% EtOH after use
- B-11 fluorimeter: turn on the **cooling water** for the power converter (media column to the left) whenever using the instrument
- B-12 to save the peltier element from unnecessary wear, do not leave **PCR machines** on at 4°C for longer than over night
- B-13 if an instrument is **on**, but **obviously neither in use nor reserved**, turn it **off** (e.g. UV spectrometers [deuterium lamp has a life time of just 2000 h!], autoclave [with door open] at 120°C, Sorvall centrifuge [with door open] at 4°C; etc.)
- B-14 but **do not switch off**: peptide synthesizer, LCMS, HPLC, network computers, lyophilizer, DNA sequencer
- B-15 store **pH meter electrode** in 3 M KCl
- B-16 strictly follow the rules for the lyophilizer
- B-17 **clean/empty rotavap's** after use
- B-18 keep area around **sensitive machines** (analytical ultracentrifuge, DNA sequencer, etc.) particularly clean
- B-19 **shakers for cell culturing**: please always use the respective sign-up sheets; try to adapt to the shaker-specific regime proposed for temperature and shaking speed (contact the superuser about the most recent conventions)  
*Note: the shakers in D310 belong to the lab course and a special key is needed to access D310, so make sure you are authorized to use these shakers!*  
**clean up any spills of medium/culture immediately** and make sure the **flask holders are stored appropriately**

### C. Some Safety Rules

- C-1 read and obey the **safety manual** of the HCI building
- C-2 avoid contamination by **ethidium bromide**: obey instructions given on the extra "Conventions for Visualizing EtBr-Stained Agarose Gels" sheet
- C-3 always **keep the doors** from the laboratories to the outside and to the halls **shut**, otherwise the building's ventilation system will collapse
- C-4 **lock** all lab and office doors when you leave, especially at night and on the weekends: the building is a prime target of thieves
- C-5 follow the extra "Guidelines for Work With Class 1 Organisms" **biosafety** rules
- C-6 in particular: autoclave all **biowaste**, then don't forget to dispose of it; any suspicious (bio)materials found in hallways and (people) elevators **will prompt a major investigation** by the ETH safety department!
- C-7 dispose solvents in the proper solvent disposal device
- C-8 dispose acids and bases in the appropriate canisters
- C-9 always quench acids or bases left over in a bottle before disposing the bottle
- C-10 always wear protecting goggles in the chemistry labs

- C-11 do not wear **lab coats** outside of the wet labs
- C-12 never wear **gloves** when leaving the labs
- C-13 when working with **thiols, strong acids and malodorous chemicals**, use a 'stinky' rotavap in a **hood/workstation equipped with a cold trap**; wash all equipment used and dispose any evaporated liquid in an appropriate waste bin inside the same hood/workstation
- C-14 **never** work alone in the '**Giftlabor**' (HCI D312)

#### D. Good Laboratory Working Practice

- D-1 **lab notebooks** must be maintained at all times; record strategy, setup, conditions, observations, results and a brief interpretation of **all** experiments (**also the failed ones!**); entries must be **dated**; give **references** to separate raw data collections/electronic data; remember: "standard conditions" today may not be the standard anymore in 6 months, therefore describe the procedure used or make a clear reference to a detailed description (or paste in a photocopy of it)
- D-2 make **backups** of your data on the **instrument computers** (e.g. to deepblue) on a regular basis
- D-3 all restriction endonucleases and other DNA modifying enzymes are to be kept in the **-20°C freezer in the cold room of F340 only**; no personal aliquots are allowed in the labs; obey the rules on the separate convention "The Golden Rules of the (-20°C) Enzyme Club"
- D-4 stay **monoclonal**: always make **single colony purifications** after transformations; start (pre-) cultures from **single colonies** only
- D-5 prepare (sterile!) **glycerol stocks** for long-term storage of your constructs at -80°C
- D-6 before sequencing clones (= expensive!), make sure by (cheap) restriction analysis on **agarose gels** that you have enough DNA for sequencing and that the overall structure of the plasmids is OK
- D-7 all **group meeting presentations** are to be stored, immediately after giving the talk, in the volume "Archive" on the group server
- D-8 **before leaving the lab for good**: prepare a **CD** with all data, texts and figures; all **lab notebooks** and **original data** must remain in the lab **well labeled** and in good order and **stored** in the cabinets in the hallway; any **literature** folders useful for other people on the project can be stored (again well labeled) in F323