

General Cleaning and Maintenance of the Laboratory

The introduction of a cleaning routine into the tissue culture laboratory should result in lessening the risk of contamination, maintenance of researcher's safety, and fewer problems with cell growth.

1. Check incubator temperatures and CO₂ levels daily. A Fyrite is a good way to accurately check CO₂ levels.
2. Wipe down bench surfaces with 70% alcohol
3. Wipe the working surface of the laminar flow hood with 70% alcohol
4. If using a vacuum, check the pump is functioning and the aspirator is clean and contains Clorox. Flush tubing with a small amount of Clorox every time after use
5. Any media bottles, etc. should be wiped with 70% alcohol before placing in hood
6. Water baths should be cleaned regularly and replaced with fresh water
7. The use of Bunsen burners in TC hoods is not recommended as the flame disrupts the air flow
8. After use of hood, turn off vacuum pump, discard any waste into suitable bags for autoclaving, check there is sufficient clorox in waste flask and the flask is not over-full, and wipe interior with 70% alcohol. Turn on UV for a short time
9. Cell cultures should be observed microscopically daily for one to become familiar with the morphological appearance of different cells. This will lead to an ability to see when irregularities and contamination occur which, in turn, may allow one to rescue or discard a culture at an early stage
10. At the end of the day remember to switch off microscopes, turn off water baths, etc. and check to make sure incubator doors are closed, and lids on LN₂ tanks are replaced properly
11. Clean all TC hoods thoroughly, removing the working surface tray so that the base is accessible. Spillages can easily get through to the base. Clean with a bacdown solution and wipe with 70% alcohol
12. Clean out all incubators regularly and thoroughly, removing all shelving and paying particular attention to door seals. If a tray is been used to hold water for humidification, this should be removed, cleaned and refilled with fresh sterile water. Roccal (Benzalkonium chloride- from Sigma Aldrich) can be added to the tray at the specified concentration (1:64 from a 10% solution)
13. Check incubator water levels before the weekend and top-up if necessary
14. Check HEPA filter inside the incubator- replace every 6-12 months.
15. Cell stocks should not be in culture for more than three months. Recover a new vial and make sure cells are tested regularly for Mycoplasma. If cells are contaminated with mycoplasma it is wise to discard cultures. If that is not possible, cells can be treated with antibiotics such as MRA (Mycoplasma Removal Agent) or Plasmocin. Double the treatment time to ensure mycoplasma is completely gone. Avoid sharing cells, and quarantine any cells coming into the lab