

Aseptic technique prevents contamination of cell cultures and reagents by microorganisms in the environment. Cell culture reagents, incubators and work surfaces are all sources of microbes, but by taking simple steps, it is possible to reduce the probability of contamination. Aseptic technique requires sterile work areas and reagents, sterile handling techniques and personal protective equipment coupled with good hygiene.

Sterile work areas

- Cell culture should be carried out in a laminar flow safety cabinet located in a room that is specific to cell culture.
- The interior of safety cabinets should be wiped with Trigene disinfectant followed by 70% ethanol before and after use. Ultraviolet (UV) light can also be used to sterilize safety cabinets between uses.
- Areas of work should be uncluttered and contain only the items required for the current procedure.

Sterile handling techniques

- Spray gloved hands with 70% ethanol before commencing work in the safety cabinet.
- When bringing equipment or reagents into safety cabinets, spray them beforehand with 70% ethanol.
- Never pour cell culture media or other reagents. Instead use sterile glass or disposable plastic pipettes to manipulate liquids and use each one only once.
- Many cell culture reagents are certified sterile from the manufacturer; however, they can become contaminated during handling. Sterilize reagents either by filtration (0.2 µm filters) or autoclaving if necessary.
- Never leave bottles of reagents, flasks or dishes open in the hood longer than necessary. Only open vessels immediately before use and if a lid has to be placed on the surface of the safety cabinet, ensure the opening is facing down. Replace lids as soon as possible.
- Never open multiple flasks, dishes or bottles at the same time, this may result in cross contamination.

Personal protective equipment and good hygiene

- Always wash hands thoroughly before and after working with cell cultures.
- Wear a lab coat, gloves and safety glasses to protect yourself from any hazardous materials and to prevent contamination of the cell cultures from microbes present on skin and clothes.

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