Dealing with cell culture contamination

1. Use the microscope to examine all tissue culture flasks for any contamination (tiny dots of bacteria or stings of hyphae from fungi / mould). Remove all infected flasks into an appropriate laboratory where no tissue culture occurs.

2. Half fill the contaminated flask with 10% sodium hypochlorite. Leave for 2 hours before rinsing down the sink with copious amounts of water. Wipe the outside of all non-infected flasks with 2.5% sodium hypochlorite and 70% isopropanol.

3. Clean the CO₂ incubator thoroughly, including the water tray, with 2.5% sodium hypochlorite. The sodium hypochlorite should be left to soak for a maximum of 5 minutes and rinsed off with water for irrigation and absorbent tissue (to prevent sodium hypochlorite corroding the metal of the cabinet). Spray incubator with 70% isopropanol and wipe with dry tissues to remove any residual sodium hypochlorite and water.

4. Refill the water tray with 1 litre of water for irrigation and a suitable concentration of mild detergent / fungicide commercially available for water trays and incubators. Return the tray to incubator.

5. Discard all culture medium prepared at the same time as the culture medium used in the infected flasks (refer to reagent preparation records for reagent number).

6. Wipe out the cabinet used with 2.5% sodium hypochlorite (refer to SOP Care and maintenance of an incubator). The sodium hypochlorite should be left to soak for a maximum of 5 minutes and rinsed off with water for irrigation and absorbent tissue (to prevent sodium hypochlorite corroding the metal of the cabinet). Spray the cabinet with 70% isopropanol and wipe with dry tissues to remove any residual sodium hypochlorite and water.

7. Put all gowns to laundry when cleaning has been completed. Use freshly laundered gowns when cleaning precautions are complete.

Persistent contamination

We recommend the following must be performed in addition to the points described in the above section if contamination occurs frequently (more than once in a week).

1. Discard all cell culture flasks.

2. Discard all aliquots of penicillin /streptomycin, glutamine and fetal bovine serum and any open bottles of water for irrigation.

3. Decontaminate the Class I/II cabinet by formaldehyde fumigation if possible.

4. Decontaminate incubator by using the usual laboratory cabinet cleaning procedure including disinfectants.