

Risk Assessment MDCK (NBL-2)

Background

The MDCK cell line originate from dog kidney tissue. These are epithelial cells from an adult female dog. These cells are cultured as adherent cells. This particular line is purchased from ATCC (CRL-34)

Risk Considerations

These primary cells are not known to harbor an agent recognized to cause disease in healthy adult humans. Handle as a potentially biohazardous material under at least Biosafety Level 1 containment.

Exposure Risk

There is negligible risk of exposure of MDCK to workers in the lab as these cells require very specific growth conditions (e.g. temperature, humidity, growth serum, cell density). Good standard laboratory practices of appropriate lab protective equipment, containment and appropriate disinfection/disposal will prevent any accidental external exposure.

Personal Protective Equipment (PPE)

Proper laboratory PPE, including lab coats and gloves, should be worn at all times in the laboratory. Eye protection should be implemented when handling large volumes of liquid or using samples with infectious agents.

Any breach of the skin (scratch, cut, wound) needs to be protected from contact with biological agents. Cover open wounds, cuts, scratches, and grazes with waterproof dressings and gloves. If you exhibit any open wounds (broken skin) in areas that cannot be covered by dressings or clothing, re-evaluate the work in process. Suggestions for mitigating the exposure in the case of broken skin that cannot be covered include, for example where the wound is on the face, work with a full-face shield; work in the BSC, or have someone else do the work.

Decontamination/Disposal Procedures

General Level 1 good laboratory practices of decontamination of all work surfaces daily and appropriate chemical disinfection (eg. 70% ethanol) of all liquid cultures and laboratory glassware will successfully remove viable cells.

Summary

While these cells are not known to harbor recognized agents that cause human diseases, it is best to use caution when handling them.

Tentative Assessment: BIOSAFETY LEVEL 1