

DRI Policy on the Use of Human and Primate Cell Lines for Laboratory Personnel

Introduction

Human and primate cell lines are commonly used in biomedical research, yet appropriate biosafety requirements for handling these materials are often debated within the scientific community. This policy document serves to clarify DRI's position on this matter and is consistent with the stance taken by the UNR Institutional Biosafety Committee (IBC), whom we use through a cooperative agreement for reviewing DRI research protocols that include the use of biological materials

Background

In 1991, the Occupational Safety and Health Administration (OSHA) issued the Bloodborne Pathogens (BBP) Standard to protect employees who have occupational exposure to human blood or other potentially infectious materials. While human blood, most body fluids, unfixed human tissues and organs were clearly included within the scope and application of the standard, the inclusion of human cell lines was ambiguous.

In 1994, OSHA issued a letter of interpretation about the applicability of the BBP Standard towards human cell lines. According to the interpretation, human cell lines are considered to be potentially infectious and within the scope of the BBP Standard unless the specific cell line has been characterized to be free of hepatitis viruses, HIV, Epstein-Barr virus, human papilloma viruses and other recognized bloodborne pathogens. In alignment with this interpretation, the American Type Culture Collection (ATCC) recommends that all human cell lines be accorded the same level of biosafety consideration as a line known to carry HIV. Moreover, the 5th Edition of the CDC publication, *Biosafety in Microbiological and Biomedical Laboratories* (BMBL), recommends that human and other primate cells should be handled using Biosafety Level 2 (BSL-2) practices and containment.

In consideration of the aforementioned regulatory interpretation and consensus guidelines and other factors, DRI has adopted the following policy regarding use of human and cell lines.

Policy

All cell and organ cultures of human origin including established cell lines as well as primate cell lines, shall be handled in accordance with the OSHA Bloodborne Pathogens Standard and under Biosafety Level 2 (BSL-2) containment. All DRI personnel working with these types of cultures shall maintain a written record of their annual training as required by the OSHA Bloodborne Pathogen Standard. In addition researchers will be required to:

- Post appropriate warning signs
- Prepare lab specific safety protocols (SOPs) for working with human or primate cell lines
- Submit a Memorandum of Understanding and Agreement (MOUA) to the UNR IBC for approval
- Participate, as applicable, the Occupational Health Program

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References

American Type Culture Collection Frequently Asked Questions

Biosafety in Microbiological and Biomedical Laboratories, 5th Ed.

OSHA Letter of Interpretation

UNR Biosafety Manual, Chapter 9, Human Tissue and Cell Culture

Please see the Biosafety section of the EH&S Links page for links to these resources.