

IBC Policy on Use of Human Cell Lines

(Adopted 5/24/07 - Updated 3/22/2012, 8/17/2023)

Introduction

The use of human cell lines and tissues in the laboratory presents potential hazards. These potential hazards include bloodborne pathogens such as hepatitis B virus, human immunodeficiency virus, hepatitis C virus, Epstein-Barr virus (EBV), human T-lymphotropic virus, and cytomegalovirus, as well as agents such as *Mycobacterium tuberculosis*. Other primate cells and tissues can also present risks to laboratory personnel. Cells immortalized with viral agents such as simian virus-40, EBV, adenovirus, or human papillomavirus, as well as cells carrying viral genomic material may also present potential hazards to laboratory personnel. This policy defines the practices needed to help reduce risk to all personnel working with or handling human and non-human primate (NHP) cells and tissues.

Policy

The Institutional Biosafety Committee (IBC) requires that human and other primate cells be handled using biosafety level (BSL)-2 practices and containment as described in the BMBL 6th Edition. All work should be performed in a biosafety cabinet and all material decontaminated by autoclaving or chemical disinfection before discarding. BSL-2 recommendations for personnel protective equipment such as laboratory coats, gloves, and eye protection should be rigorously followed. Work with human cell lines and tissue in animals will require the animals to be housed at ABSL-2 and cages/animals handled in a biosafety cabinet unless otherwise approved by the IBC. Transport of these animals must follow BSL-2 transportation procedures. All laboratory personnel working with human cells and tissues must be enrolled in the Occupational Health and Safety Program and offered the hepatitis B immunization series. Laboratory personnel will need to take Bloodborne Pathogens Training that is accessible on the Environmental Health and Safety Assistant website. This training module is intended for University of Missouri employees and students who have the potential to be exposed to blood or other potentially infectious human material and is designed to provide a basic understanding of bloodborne pathogens, common modes of transmission, and methods of preventing exposure. Similar programs should be considered for work with NHP blood, body fluids, and tissues.

Some work may involve well-characterized human cell lines that the user believes are void of any bloodborne pathogens or adventitious zoonotic agents, and thus should not be considered as potentially infectious materials. The principal investigator will need to include justification and evidence for the IBC to review for consideration that the work be performed at a lower containment level. The evidence must include testing of the cell lines for common pathogens and agents and provided for the IBC review. IBC considerations include but are not limited to the date and inclusiveness of testing documentation as well as laboratory environments where the cell line has been used and/or will be used.