McGill

STANDARD OPERATING PROCEDURE SOP #610

TESTING OF BIOLOGICAL MATERIAL

1. PURPOSE

This Standard Operating Procedure (SOP) describes the screening of new biological material to be used in vivo and obtained from an outside source for the presence of rodent or human pathogens.

2. RESPONSIBILITY

Principal Investigator (PI), veterinary care staff, Diagnostic and Research Support Service (DRSS) staff.

3. INTRODUCTION

3.1. Biological material refers to cell lines, transplantable tumors, serum, tissues, body fluids, antibody preparations or hybridoma lines.

3.2. When biological material from an unknown source is introduced into an animal, it is a potential source of contamination by adventitious pathogens if the material originated from an infected animal. The pathogen has the potential to infect an animal that is inoculated with the biological material.

3.3. Primary cells derived from animals can become contaminated with pathogens from other animal cell lines if the two types of cells are cultured in the same incubator. Thus, a compatible tissue source pathogen status must be verified to prevent cross-contamination.

3.4. In an effort to protect staff members working with animal models that have been exposed to human cells or tissues, all human samples must be pre-screened before use as well.

3.5. Do not introduce biological materials into rodents in any animal facility at McGill University without prior consultation with the veterinarian.

4. PROCEDURES

4.1. New cell lines should come with a written report stating that they are free from murine pathogens or otherwise be tested; American Type Culture Collection (ATCC) report is not sufficient as it does not include murine pathogens.

4.2. Biological material of animal origin:

4.2.1. Test biological material originating from outside the facility or from an unknown source.

4.2.2. Testing of material coming from a McGill facility/room within the virtual facility network with same or higher bioexclusion level shall not be required.

4.2.3. If the entire research protocol will be conducted in a Biosafety Level 2 (BSL2) facility, and the animals will not be moved to another McGill facility at any point, testing of rodent biologicals prior to use can be eliminated per veterinarian approval.

4.3. Biological material of human origin:

4.3.1. Human cells should be tested for human pathogens if donor's status is unknown. Otherwise biological material should be handled under appropriate Biosafety Level.

4.4. Panel selection:

4.4.1. Human profile:

HUMAN
Human immunodeficiency virus (HIV1, HIV2)
Hepatitis viruses (A, B, and C)
Hantaviruses (Hantaan, Seoul, Sin Nombre)
Mycoplasma spp.

4.4.2. Rodent profiles:

	MOUSE	RAT	MOUSE/RAT
Murine norovirus (MNV)	●		●
Mouse parvoviruses (MPV)	●		●
Minute virus of mice (MVM)	●		●
Mouse hepatitis virus (MHV)	●		●
Reovirus type 1 & 3 (REO)	●	●	●
Lymphocytic choriomeningitis virus (LCMV)	●	●	●
Lactate dehydrogenase-elevating virus (LDV)	●	●	●
Mouse rotavirus (MRV/EDIM)	●		●
Theiler's murine encephalomyelitis virus (TMEV [GDVII])	●	●	●
Mousepox (Ectromelia) (ECTRO)	●		●
Hantavirus hantaan (HANT)	●		●
Hantavirus seoul (SEO)		●	●
Polyoma virus (POLY)	●		●
K virus (K)			●
Mouse adenovirus (MAV-1 & MAV-2)	●		●
Mouse cytomegalovirus (MCMV)			●
Mouse thymic virus (MTLV)			●
Pneumonia virus of mice (PVM)			●
Sendai (SEND)	●	●	●
Rat cytomegalovirus (RCMV)		●	●
Rat theilovirus (RTV)		●	●
Rat parvovirus (RPV)		●	●
Kilham rat virus (KRV)		●	●
Rat minute virus (RMV)		●	●
Toolhan's H-1 virus (H-1)		●	●
Rat rotavirus (IDIR)		●	●
Rat coronavirus (RCV, SDAV)		●	●
Mycoplasma	●	●	●

4.4.1. The veterinarian may require additional tests based on health status of the host facility.

4.5. Submitting samples:

4.5.1. Contact the DRSS at (514) 398-8289 or drss@mcgill.ca to arrange testing of biological material.

4.5.2. Submit 2 undiluted aliquots of at least 200µL each (to allow for confirmatory testing).

4.5.3. Cell number is not critical; however, please indicate if there are more than 5 x 10^7 cells/mL.

4.5.4. Please indicate protein concentration if greater than 1.5 mg/mL.

4.6. Results:

4.6.1. Results should be submitted to the appropriate Facility Animal Care Committee (FACC) with the Animal Use Protocol (AUP), renewals and amendments.

4.7. Positive results:

4.7.1. Contact a veterinarian to discuss the necessary precautions required to prevent contamination of rodent populations (e.g. rederivation of the population or isolation of the inoculated population).

4.7.2. For *Mycoplasma sp*, removal agents are available commercially to treat cell lines *in vitro*.

4.7.3. Other contaminants can be eliminated by in vitro subculture or in vivo subpassages in mice or nude rats.

5. SAFETY

5.1. All biologicals are potentially pathogenic, wear disposable gloves and institutional clothing (e.g. lab coat) when handling these materials.

SOP REVISION HISTORY

DATE OF MODIFICATION	DETAILS
September 2015	Addition of items 4.7.2 and 4.7.3.