Containment Level Matrix for Rodent Models

The matrix provides guidance on the handling criteria for research involving biological materials and animals. Please note that all research projects still require both Animal Ethics Approval from the Animal Care Committee (ACC) and Biosafety Permits from the Institutional Biosafety Committee (IBC).

	MATERIAL	*In vitro* CONTAINMENT LEVEL[i]	*In vivo* CONTAINMENT LEVEL[ii]	HOUSING REQUIREMENTS	CAGE CHANGES	PRE / POST-INFECTION MANIPULATIONS	IMAGING
MATERIALS *NOT* KNOWN TO BE TRANSMITTED VIA AEROSOL ROUTES ***(* "Retroviral" is inclusive of lentiviral vectors; ** "Additional operational practices may be required")***							
1	**Rodent cell lines transduced/direct exposure with an ecotropic[iii] retroviral* vector with benign insert (ex. GFP) into a rodent**	CL2	ACL1	No special requirements	**No special requirements** - cages can be changed on benchtop. Bedding does not need to be autoclaved prior to disposal / cages do not need to be autoclaved prior to washing	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	No special requirements
2	**Rodent cell lines transduced/direct injection with an amphotropic[iv] retroviral* vector with benign insert (ex. GFP) into a rodent**	CL2	ACL2 for 1 week / then ACL1	Microisolator technique for 1 week post-dosing; after 1 week, no special requirements	**For first week**: 1. ALL cage changes in BSC; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; **After one week**, resume normal cage change[v].	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	Imaging all manipulations inside BSC where feasible. Maintain CL2/ACL2 practices where feasible, especially during the first week.
3	**Rodent cell lines transduced/direct injection with an ecotropic[iii] retroviral* vector with 'hot' insert (ex. oncogene) into a rodent**	CL2**	ACL1	No special requirements	**No special requirements -** cages can be changed on benchtop. Bedding does not need to be autoclaved prior to disposal / cages do not need to be autoclaved prior to washing	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	No special requirements
4	**Rodent cell lines transduced/direct injection with an amphotropic[iv] retroviral* vector with 'hot' insert (ex. Oncogene)**	CL2**	ACL2 for 1 week / then ACL1	Microisolator technique for 1 week post-dosing; after 1 week, no special requirements	**For first week:** 1. ALL cage changes in BSC; 2. Bag and autoclave bedding; 3. Bag and autoclave caging before wash; **After one week**, resume normal cage change[v].	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	Imaging all manipulations inside BSC where feasible. Maintain CL2/ACL2 practices where feasible, especially during the first week.
5	**Rodent cell lines transduced/direct injection with an pantropic[vi] retroviral* vector with 'hot' insert (ex. Oncogene)**	CL2**	ACL2 for 1 week / then ACL1	Microisolator technique for 1 week post-dosing; after 1 week, no special requirements	**For first week:** 1. ALL cage changes in BSC; 2. Bag and autoclave bedding; 3. Bag and autoclave caging before wash; **After one week**,resume normal cage change[v].	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	Imaging all manipulations inside BSC where feasible. Maintain CL2/ACL2 practices where feasible, especially during the first week.
6	**Unmodified murine cells into rodent**	CL1	ACL1	No special requirements	**No special requirements** - cages can be changed on benchtop. Bedding does not need to be autoclaved prior to disposal / cages do not need to be autoclaved prior to washing	No special requirements	No special requirements
MATERIALS KNOWN TO BE TRANSMITTED VIA AEROSOL ROUTES							
7	**Adenovirus/Adeno-Cre; Adenoviral vectors; cells transduced with adenoviral vectors into a rodent**	CL2	ACL2 for 1 week / then ACL1	Microisolator technique for 1 week post-dosing; after 1 week, no special requirements	**For first week:** 1. ALL cage changes in BSC; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; **After one week**,resume normal cage change[v].	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	Imagingall manipulations inside BSC where feasible. Maintain CL2/ACL2 practices where feasible, especially during the first week.
8	**Known Human Pathogens; Certain toxins; and others as reviewed by IBC into a rodent**	CL2	ACL2	Microisolator technique for DURATION of experiment	For first week: 1. ALL cage changes in BSC; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; **After one week**, resume normal cage change[v].	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	Imaging all manipulations inside BSC where feasible. Maintain CL2/ACL2 practices where feasible
HUMAN CELL LINES ***(* "Retroviral" is inclusive of lentiviral vectors; **"Additional operational practices may be required")***							
9	**Unmodified (established) Human cell lines inserted into an immunocompromised rodent**	CL2	ACL1	No special requirements	**No special requirements** - cages can be changed on benchtop. Bedding does not need to be autoclaved prior to disposal / cages do not need to be autoclaved prior to washing	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	No special requirements
10	**Human cell lines transduced with retroviral* vector then inserted into an immunocompromised rodent**	CL2**	ACL2 for 1 week / then ACL1	Microisolator technique for 1 week post-dosing; after 1 week, no special requirements	**For first week:** 1. ALL cage changes in BSC; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; **After one week**, resume normal cage change[v].	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	Imaging all manipulations inside BSC where feasible. Maintain CL2/ACL2 practices where feasible, especially during the first week.
11	**PRIMARY human tissue transplant into rodent**	CL2	ACL2	Microisolator technique for DURATION of experiment	1. ALL cage changes in BSC; 2. Bag and autoclave bedding; 3. Bag and autoclave caging before wash	All injections and necropsies in BSC for DURATION of project (following CL2 practices)	Imaging all manipulations inside BSC where feasible. Maintain CL2/ACL2 practices where feasible

[i] Biosafety Level – is applicable to injections, exposures, and necropsy
[ii] Animal Biosafety Level - is applicable for animal housing and cage changes
[iii] Ecotropic - a virususually associated with retroviruses, which does not produce disease in its natural host but does replicate in tissue culture cells derived from the host species.
[iv] Amphotropic - a virus usually associated with retroviruses, which may not produce disease in its natural host but does replicate in tissue culture cells of host species and in cells from other species.
[v] Normal Cage Change Practices are available as Standard Operating Procedures at the animal facility.
[vi] Pantropic - a virus that affects or has an affinity for many different kinds of tissue or organs