

## Animal Use Occupational Health Plan – Reference

### *Required Protection Measures for persons Handling Animals Involved with the use of biohazardous materials*

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Use of biohazardous materials, biological toxins and genetically modified cells in animals must be approved both by the IACUC and IBC. The tables on the following two pages indicate **minimum** levels of biosafety practices required of those handling and using animals.

These guideline tables are based on the information appearing in the current edition of the *Biosafety in Microbiological and Biomedical Laboratories (BMBL)\** which is used for determining BSL and ABSLs for research.

(\*<http://www.cdc.gov/biosafety/publications/bmbl5/index.htm> )

## BMBL MATRIX for Biosafety (BSL) and Animal Biosafety Level (ABSL) determination

*Guidelines based on the current edition of the Biosafety in Microbiological and Biomedical Laboratories (BMBL)\*to be used for determining BSL and ABSLs for research (\* <http://www.cdc.gov/biosafety/publications/bmbl5/index.htm> )*

Material	Material exposure	Biosafety Level (Applicable to injections /necropsy)	Animal Biosafety Level (applicable for animal housing/ cage changing)	Housing Requirements	Cage Changes	Pre/Post infection Manipulations
Murine cell lines transduced with an <b>ecotropic</b> retroviral vector with <b>benign</b> insert	<b>MATERIALS NOT KNOWN</b> TO BE TRANSMITTED VIA AEROSOL ROUTES ("Retroviral" is inclusive of lentiviral vectors)	BSL-2	ABSL-1	No Special Requirements	No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project
Murine cell lines transduced with an <b>amphotropic</b> retroviral vector with <b>benign</b> insert	<b>MATERIALS NOT KNOWN</b> TO BE TRANSMITTED VIA AEROSOL ROUTES ("Retroviral" is inclusive of lentiviral vectors)	BSL-2	ABSL-2 for 1 week then ABSL-1	Microisolation technique for 1 week post-dosing then normal housing requirements	For first week : 1. ALL cage changes in BSL-2 practices; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; then No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project
Murine cell lines transduced with an <b>ecotropic</b> retroviral vector with <b>hot</b> insert (ex. Oncogene)	<b>MATERIALS NOT KNOWN</b> TO BE TRANSMITTED VIA AEROSOL ROUTES ("Retroviral" is inclusive of lentiviral vectors)	BSL-2	ABSL-1	No Special Requirements	No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project
Murine cell lines transduced with an <b>amphotropic</b> retroviral vector with <b>hot</b> insert (ex. oncogene)	<b>MATERIALS NOT KNOWN</b> TO BE TRANSMITTED VIA AEROSOL ROUTES ("Retroviral" is inclusive of lentiviral vectors)	BSL-2	ABSL-2 for 1 week then ABSL-1	Microisolation technique for 1 week post-dosing then normal housing requirements	For first week : 1. ALL cage changes in BSL-2 practices; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; then No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project
Murine cell lines transduced with a <b>pantotropic</b> retroviral vector with <b>hot</b> insert (ex. oncogene)	<b>MATERIALS NOT KNOWN</b> TO BE TRANSMITTED VIA AEROSOL ROUTES ("Retroviral" is inclusive of lentiviral vectors)	BSL-2	ABSL-2 for 1 week then ABSL-1	Microisolation technique for 1 week post-dosing then normal housing requirements	For first week : 1. ALL cage changes in BSL-2 practices; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; then No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project
Unmodified murine cells into mice	<b>MATERIALS NOT KNOWN</b> TO BE TRANSMITTED VIA AEROSOL ROUTES	BSL-1	ABSL-1	No Special Requirements	No Special Requirements	No Special Requirements

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Material	Material exposure	Biosafety Level (Applicable to injections /necropsy)	Animal Biosafety Level (applicable for animal housing/ cage changing)	Housing Requirements	Cage Changes	Pre/Post infection Manipulations
Adenovirus/Adeno-Cre; Adenoviral vectors; cells transduced with adenoviral vectors	MATERIALS <b>KNOWN</b> TO BE TRANSMITTED VIA AEROSOL ROUTES	BSL-2	ABSL-2 for 1 week then ABSL-1	Mlcroisolation technique for 1 week post-dosing then normal housing requirements	For first week : 1. ALL cage changes in BSL-2 practices; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; then No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project
<b>KNOWN HUMAN PATHOGENS</b> (ex. Toxoplasma gondii, listeria monocytogenes, certain toxins, Others <b>Non BSL-3</b> materials as reviewed by the IBC	MATERIALS <b>KNOWN</b> TO BE TRANSMITTED VIA AEROSOL ROUTES	BSL-2	ABSL-2	Mlcroisolation techniques for DURATION of the expriments	1. ALL cage changes in BSL-2 practices; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash;	All injections and necropsies performed under BLS-2 practices for DURATION of project
<b>UNMODIFIED</b> (established) human cell lines inserted into an immunocompromised mouse	Human Cell Lines (" <i>Retroviral</i> " is inclusive of lentiviral vectors)	BSL-2	ABSL-1	No Special Requirements	No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project
Human cell lines transduced with retroviral vectors then inserted into an immunocompromised mouse	Human Cell Lines (" <i>Retroviral</i> " is inclusive of lentiviral vectors)	BSL-2	ABSL-2 for 1 week then ABSL-1	Mlcroisolation technique for 1 week post-dosing then normal housing requirements	For first week : 1. ALL cage changes in BSL-2 practices; 2. bag and autoclave bedding; 3. bag and autoclave caging before wash; then No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project
<b>PRIMARY</b> human tissue transplanted into mice	Human Cell Lines (" <i>Retroviral</i> " is inclusive of lentiviral vectors)	BSL-2	ABSL-1	No Special Requirements	No Special Requirements	All injections and necropsies performed under BLS-2 practices for DURATION of project