

VIRAL VECTOR BIOSAFETY REFERENCE GUIDE

VECTOR	RISK GROUP	CONTAINMENT LEVEL		CONDITIONS-BASED CONTAINMENT	DECONTAMINATION
		LAB WORK	ANIMAL WORK		
Adenovirus	2	BSL2*	ABSL2/1	<p>Administration to animals: ABSL2</p> <p>Post-Administration: Animals housed/used under ABSL2 containment for 72-hours, then may be housed at ABSL1 if animal does not also contain human cells or tissues.</p>	<p>> Freshly prepared 10% bleach (0.5% sodium hypochlorite)</p> <p>>Cidex (2.4 % glutaraldehyde)</p> <p>>0.25% SDS</p> <p>>Alcohol not effective disinfectant against</p>
Adeno-associated virus (AAV)	1	BSL1/2	ABSL1/2	<p>Lab Work: AAV must be packaged under BSL2 due to use of HEK293 cells; once packaged, AAV may be reduced to BSL1 unless helper virus is present, construct contains >2/3 of viral genome, or potentially hazardous transgene (e.g., oncogene, toxin) is expressed.</p> <p>Animal Work: ABSL1 or ABSL2 (if presence of helper virus, >2/3 viral genome or hazardous transgene).</p>	<p>> Freshly prepared 0.5% sodium hypochlorite</p> <p>>2% glutaraldehyde</p> <p>>0.25% SDS</p> <p>>Alcohol not effective disinfectant against AAV</p>
Lentivirus	2	BSL2/+**	ABSL2/1	<p>Non-human virus or non-human pseudo-typed virus with no oncogenic potential or biotoxin expression: BSL2 and ABSL2 for 72 hours, then ABSL1.</p> <p>Human virus or human pseudo-typed virus, and/or with oncogene or biotoxin expression: BSL2+ (enhanced) and ABSL2 throughout experimentation.</p>	<p>> Freshly prepared 0.5-1% sodium hypochlorite</p>
Epstein-Barr virus	2	BSL2	ABSL2		<p>>Freshly prepared 0.5% sodium hypochlorite</p>
Moloney murine leukemia virus (MMLV)	1	BSL1	ABSL1	<p>Ecotropic (only infectious in the host species) MMLV may be handled at BSL1/ABSL1.</p>	<p>> Freshly prepared 0.5-1% sodium hypochlorite</p> <p>>70% ethanol</p> <p>>Cidex</p> <p>>Quaternary ammonium</p>
	2	BSL2	ABSL2/1	<p>Amphotropic (can infect more than one species) MMLV, VSV-g pseudotyped vectors, or expressing hazardous transgene must be handled at BSL2 and ABSL2 for 72 hours, then ABSL1. If animal also contains human cells or tissues, ABSL2 containment must be maintained throughout.</p>	

Herpes simplex virus (HSV)	2	BSL2	ABSL2		> Freshly prepared 0.5% sodium hypochlorite >70% ethanol
Baculovirus	1	BSL1/2	ABSL1/2	Standard Use: BSL1 and ABSL1 Vectors modified for mammalian cells or pseudotyped with VSV-g: BSL2/ABSL2	> Freshly prepared 0.5% sodium hypochlorite >70% ethanol
Vesicular stomatitis virus (VSV)	2	BSL2	ABSL2		> Freshly prepared 0.5% sodium hypochlorite > Alcohol not effective disinfectant against VSV
Rabies SAD-B19	2	BSL2	ABSL1		> Freshly prepared 0.5% sodium hypochlorite >70% ethanol
Vaccinia (strains NYVAC, TROVAC, ALVAC)	2	BSL1	ABSL1		> Freshly prepared 0.5% sodium hypochlorite >Cidex + quaternary ammonium
Vaccinia (strains MVA, NYCBOH, WR, Copenhagen)	2	BSL2+	ABSL2	Vaccination may be required.	

*All BSL2 work done in biosafety cabinet, transport specimen in sealed, labeled secondary container, dispose of as biohazardous waste.

**Enhanced BSL2 (BSL2+) work uses BSL3 practices - increased PPE (e.g., wraparound fluid-resistant disposable gown, two pairs of fluid-resistant disposable gloves, safety glasses), all work in biosafety cabinet, needle protective devices, transport specimen in sealed, labeled secondary container, dispose of as biohazardous waste.