

Recombinant Baculovirus Vectors

The following provides information on the use and containment of recombinant Baculovirus vectors. Investigators should use these guidelines as part of their risk assessment when planning experiments with these vectors and preparing applications to the Institutional Biosafety Committee (IBC). Note the listed containment levels are the minimum that should be employed with these vectors: some experiments, such as the expression of toxins or oncogenes, may require higher levels of containment. The appropriateness of the containment should be considered as part of the investigator's risk assessment and will be reviewed by the IBC.

NIH Risk Group	NA Baculoviruses are non-mammalian enveloped, circular DNA viruses that infect insects.
Biocontainment Level	BSL1 Containment levels may be raised per IBC review if the vector is amphotropic and can infect human cells or can achieve expression of an oncogene or biological toxin in mammalian cells.
Infectious to Humans/Animals	Generally, non-genetically modified wild type baculoviruses are not capable of replicating in vertebrate cells
Route of Transmission	NA
Laboratory Hazards	Direct contact, droplet exposure of the mucous membrane, direct injection Since they are not capable of replicating in vertebrate cells they do not pose any inherent hazards to laboratory workers. However, more recent studies with the use of mammalian specific promoters have achieved expression of foreign genes in a wide variety of mammalian cell lines and primary cell cultures.
Disinfection	Effective disinfectants require a minimum of 20 minutes contact time. Use one of the following: <ul style="list-style-type: none"> • RECOMMENDED: Sodium hypochlorite (1.0%: use 1:5 dilution of fresh bleach) • 70% Ethanol or Isopropanol
Animals	ABSL1

Sources:

http://web.stanford.edu/dept/EHS/prod/researchlab/bio/docs/Working_with_Viral_Vectors.pdf
http://www.dartmouth.edu/~ehs/biological/biosafety_docs/110_1_ibc_viral_vector_policy.pdf