Material Safety Data Sheet (MSDS)
FOR LENTIVIRAL VECTORS

This MSDS is applicable to pre-made and custom made lentiviral vector products generated in and supplied by Viral Vector Core at Duke University.
Cultures of replication defective lentiviral vectors are non-infectious and are not hazardous materials as defined by OSHA 1919.1200. Nevertheless, lentiviral vector-derived reagents are generated in human cells where there is the possibility of recombination to form wild type HIV-1. As such, they should be handled as potentially infectious material.

Description:

Lentiviral vectors defined by the presence of HIV-derived cis elements which are flanked by lentiviral long terminal repeats (LTRs). Lentiviral vector harbors recombinant transgene sequences (e.g. human transgenes). The removal of the viral structural genes renders the vector replication defective and dependent upon a packaging cassette (helper) or packaging cell line. Lentiviruses are enveloped viruses and upon leaving the producer cell line, the viral capsid becomes enclosed in a lipid by layer derived from the host cell. Most of lentiviral vectors are self-inactivating (SIN), thus restricting mRNA production from integrating vectors to the internal promoter, severely reducing full-length vector transcripts. By default, the lentiviral vectors are pseudotyped with the Vesicular stomatitis Indiana virus (VSIV) (often still referred to as VSV: a virus in the family Rhabdoviridae. Lentiviral cultures are provided as either low concentration (>1x10^7 viral genomes/mL) virus in tissue culture media, or as high concentration, purified (>1x10^9 viral genomes/mL) virus in phosphate buffered saline. Trace components present in the purified virus include, but are not limited to, inorganic salts,

vitamins and other nutrients, and human cellular proteins, carbohydrates, amino acids, and fats. The material is normally shipped and stored frozen.

SECTION I - IDENTITY

NAME: Recombinant Lentiviral Vector

SYNONYM OR CROSS REFERENCE: LVs, Integration-competence lentiviral vectors (ICLVs).
Lentiviral vector is a genus of viruses of the Retroviridae family.

PROVIDED: Non-concentrated >$1x10^7$ viral genomes/mL in tissue culture media; Concentrated preps; >$1x10^9$ viral genomes/mL in sterile PBS

SECTION II - HEALTH HAZARD

Lentiviral vectors are replication-defective, therefore are not possess danger to humans or animals. However, lentiviral vectors can integrate into the host chromatin, and thus pose some risk of insertional mutagenesis.

SECTION III- PHYSICAL DATA

Liquid or frozen particle suspension

SECTION IV- FIRE AND EXPLISION

None

SECTION V- REACTIVITY

Not chemically reactive. Will enter permissive mammalian cells and interact or react with cellular components.

SECTION VI - RECOMMENDED PRECAUTIONS
CONTAINMENT REQUIREMENTS: Appropriate containment facilities for all activities involving the vector and vector-administered cells, tissues and fluids. This includes BSL-2 practices for rLVs (including animal housing).
PROTECTIVE CLOTHING: Laboratory coat, gloves, safety glasses recommended

SECTION VII - HANDLING INFORMATION
SPILLS: Allow aerosols to settle; contain spill and decontaminate with 10% chlorine bleach; allow sufficient contact time (30 min) before clean up
DISPOSAL: Decontaminate all wastes before disposal: steam sterilization, chemical disinfection with 10% chlorine bleach (liquid wastes), incineration (tissues or animal carcasses).
STORAGE: In sealed containers that are appropriately labeled. Long-term storage at -80°C

SECTION VIII

Special Precautions or Comments: The Viral Vector Core required that all Lentiviral vector-work is handled by qualified specialist using appropriate safety procedures and precautions. Additional information is available from publications at the Centers for Disease Control Office of Health and Safety's website at
http://www.cdc.gov/od/ohs/biosfty/bmb14/bmb14toc.htm
Information on the classification of human etiologic agents on the basis of hazard can be found as Appendix B in the NIH **Guidelines for Research Involving Recombinant DAN Molecules** http://www.grants.nih.gov/grants/policy/recombinentdnaguidelines.htm

For information on BSL-2 handling, see Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition The above information is accurate to the best of our knowledge and experience. The user should exercise independent judgment as to the hazards based on all sources of information available.

The Viral Vector Core shall not be held liable for any damage resulting from the handling or use of the above product.