

MSDS FOR REPLICATION-DEFECTIVE ADENO-ASSOCIATED VIRAL (AAV) VECTORS ENCODING NON-TOXIC OR NON-TUMORIGENIC GENES (Biosafety Level 1)

DESCRIPTION:

AAV vectors consist of recombinant transgene sequences (e.g., marker or human genes) flanked by the AAV inverted terminal repeats. The removal of the majority of viral structural genes renders the vector replication-defective and dependent on an AAV helper virus. AAV cultures are normally provided as purified viral particles in phosphate buffered saline at a concentration of up to 5×10^{13} particles/ml. The viral stock consists of particles containing the vector genome (full capsids) and a variable number of empty viral capsids in PBS. Other trace components present 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 - HAZARDOUS INGREDIENTS

None

SECTION II - PHYSICAL DATA

The vector is provided as liquid or frozen particle suspensions.

SECTION III - HEALTH HAZARDS

rAAV cultures are not known to cause any diseases in humans or animals.

SECTION IV- FIRE AND EXPLOSION

None

SECTION V - REACTIVITY

Stable. Will enter mammalian cells and can remain in episomal form in non-dividing cells. In the presence of adenovirus (or other helper viruses) and wild-type AAV the rAAV can integrate into host cell chromosome and be shed from host. Therefore, caution should be used when using rAAV vectors in combination with helper viruses and wild-type AAV.

SECTION VI - METHOD OF DISPOSAL

Spill: Contain spill and decontaminate the area using a disinfectant such as chlorine bleach (10% f.c.), Wescodyne, or detergent-based disinfectant.

Waste Disposal: Dispose of viral stock by autoclaving at 121°C for 30-45 minutes
Dispose of infected liquid cultures by decontamination with chlorine bleach (10% f.c.) for 10 minutes and then dispose of in sink.
Dispose of infected animal carcasses or tissues by incineration

Follow all Federal, State, and Local regulations.

SECTION VII - SPECIAL PROTECTIVE INFORMATION

Handle as biohazardous material under Biosafety Level 1 containment.

SECTION VIII - SPECIAL PRECAUTIONS OR COMMENTS

The Gene Therapy Center recommends that all AAV vectors and cultures be handled by qualified microbiologists using appropriate safety procedures and precautions. Detailed discussions of laboratory safety procedures are provided in **Laboratory Safety: Principles and Practice** (Fleming et al., ASM Press, Washington D.C., 1995), and in the U.S. Government Publication, **Biosafety in Microbiological and Biomedical Laboratories** (CDC, 1999). This and other publications are available at the Centers for Disease Control Office of Health and Safety's website:

<http://www.cdc.gov/od/ohs/biosfty/bmb14/bmb14toc.htm>

The rAAV vectors manufactured at the UNC-VC are considered Risk Group 1 (RG1) agents in accordance with the NIH Guidelines for Research Involving Recombinant DNA Molecules due to the lack of helper viruses in the manufacturing process. If the vector transgene encodes for a potentially toxic or tumorigenic gene, then this MSDS is not applicable. For more information, see the following website:

http://oba.od.nih.gov/rdna/nih_guidelines_oba.html

The above information is accurate to the best of our knowledge. All materials and mixtures may present unknown hazards and should be used with caution. The user should exercise independent judgment as to the hazards based on all sources of information available. The Gene Therapy Center shall not be held liable for any damage resulting from the handling or use of the above product