



VIRAL VECTOR
PRODUCTION
UNIT



MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

All made AAV vectors made by Vector Production Unit (UPV)

- NAME: Recombinant adeno-associated viral vector
- SYNONYM OR CROSS REFERENCE: AAV vector, rAAV
- CHARACTERISTICS: Parvovirus; non-enveloped, 20-26 nm diameter, linear DNA genome. Replication-defective vector.
- PROVIDED: The vector is provided as liquid or frozen particle suspensions
- DESCRIPTION: AAV vectors consist of recombinant transgene sequences (e.g., marker or human genes) flanked by the AAV inverted terminal repeats (ITR). ITRs are non coding regions which account for only 6% of total vector genome. Recombinant AAV vectors are produced at the UPV by the triple transfection system: (a) the ITR-containing plasmid; (b) the plasmid encoding AAV the capsid (VP1, VP2 and VP3 proteins) and replicase genes; and (c) the adenoviral helper plasmid. To remove empty capsids, at UPV AAV vectors are purified by iodixanol-based ultracentrifugation.
- QUALITY CONTROL ASSAYS: Titer is determined by fluorescent picogreen assay (Piedra et al; *Human Gene Therapy Methods* 26:35–42 (2015)). All vector produced must pass sterility tests to confirm absence of mycoplasma, bacteria, fungi and yeast.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

SECTION II - HEALTH HAZARDS

Handle as biohazardous material under Biosafety Level 1 containment. If the vector transgene encodes for a potentially toxic or tumorigenic gene, then this MSDS is not applicable.

- HAZARDOUS INGREDIENTS: None
- CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: None
- FIRE AND EXPLOSION: None
- REACTIVITY: Stable under normal conditions. Inherently biodegradable. Does not bioaccumulate
- PATHOGENICITY: AAV is not known to cause any diseases in humans or animals.

SECTION III - SPECIAL PRECAUTIONS

The Vector Production Unit (UPV) recommends that all AAV vectors and cultures be handled by qualified biologists using appropriate safety procedures and precautions.

AAV vector genomes remain primarily episomal in target cells and have a low (if any) frequency of integration. 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.

- **STORAGE:** In sealed containers that are appropriately labeled. Long-term storage at -80°C.
- **CONTAINMENT REQUIREMENTS:** Appropriate containment facilities for all activities involving the vector and vector-administered cells, tissues and fluids. This includes BSL-1 practices for rAAV vector use (including animal housing).
- **PROTECTIVE CLOTHING:** Laboratory coat, gloves. Safety glasses recommended
- **TRANSPORT INFORMATION:** Not classified as dangerous in the meaning of transport regulations

SECTION IV - FIRST AID/TREATMENT

- **CONTACT:** Immediately flush eyes and skin with plenty of water for at least 15 minutes. Call a physician.
- **INGESTION:** Wash out mouth with water. Call a physician
- **ACCIDENTAL INJECTION:** Wash area with soap and water. Call a physician.
- **ADVICE TO PHYSICIAN:** No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION V - METHOD OF DISPOSAL

- **SPILL:** Contain spill and decontaminate the area using a disinfectant such as chlorine bleach (10% f.c.), allow sufficient contact time (30 min) before clean up.
- **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
 - Dispose of in accordance with local regulations.

SECTION VI - MISCELLANEOUS INFORMATION

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 Vector Production Unit (UPV) assumes no liability resulting from the handling or use of the above product.