Lentiviral vector

DESCRIPTION

Lentiviruses are members of the family *Retroviridae*. They are enveloped viruses with a single-stranded linear RNA genome. Lentiviruses vector systems can include human viruses (e.g., human immunodeficiency virus). They can also include viruses of animal origin (e.g., feline immunodeficiency virus, equine infectious anemia virus, simian immunodeficiency virus).

PATHOGENICITY

Lentiviruses can cause severe immunologic and neurologic disease in their natural hosts. The clinical manifestations of infection include non-specific symptoms such as lymphadenopathy, anorexia, chronic diarrhea, weight loss, fever and fatigue.

MODE OF TRANSMISSION

Lentiviruses are transmitted by direct contact with non-intact skin and mucosa and by parenteral inoculation. The hazard of aerosol exposure is unknown.

LABORATORY CONTAINMENT REQUIREMENTS

- **Containment level 2 or 2+ in some cases.**

ANIMAL RESEARCH FACILITY CONTAINMENT REQUIREMENTS

- Recombinant lentiviral vector inoculation : **containment level 2.**
- Housing of animals infected with replication defective recombinant lentiviral vector : **containment level 2 for 7 days. After this period, animals can be transferred to containment level 1.**
- Housing of animals permissive for recombinant lentiviral vector replication : **containment level 2 for duration of experiment.**

DISINFECTANTS

- 0,5 % sodium hypochlorite (1/10 dilution of bleach), 70 % ethanol, 2 % glutaraldehyde and 4 % formaldehyde.

PHYSICAL INACTIVATION

- Autoclave : 121°C, 30 minutes, 15 psi.

ADDITIONAL INFORMATION

- « *Laboratory Biosafety Guidelines* », Public Health Agency of Canada.
- « *Containment Standards for Veterinary Facilities* », Canadian Food Inspection Agency.
- *« Guidelines for Research Involving Recombinant DNA Molecules »*, National Institutes of Health.
- *« Guidance on Biosafety Considerations for Research with Lentiviral Vectors »*, National Institutes of Health.
- Web site of the *Comité universitaire de gestion des risques biologiques,* Université Laval *http://www.ssp.ulaval.ca/matieres-dangereuses/risques-biologiques/*.