



ECTROMELIA VIRUS

CLASSIFICATION

Family: Poxviridae

Genus: Orthopoxvirus

- Non-enveloped DNA virus
- Linear, double-stranded
- 130-375kbp genome
- 250 x 200 x 200nm brick-shaped virion
- Replicates in cytoplasm

PREVALENCE

Mice are the natural hosts. Rats can be transiently infected by experimental means.

DIAGNOSIS

ELISA, IFA

DISEASE/CLINICAL SIGNS

Dependent on the age and strain of mice. In susceptible strains the following has been observed:

- Initially presents ruffled face and body with active behaviour
- Eventual depression
- Hunched posture
- Conjunctivitis
- Focal or pan necrosis in liver
- Skin lesions
- Exanthematous rash on exposed skin, especially the tail

STRAINS

Many strains with the Moscow strain the most virulent and infectious. Total number of strains not known.

Resistant strains of mice include C57BL/6 and C57BL/10, and more susceptible strains are BALB/c, C3H, DBA/1, DBA/2, and CBA amongst others.

TRANSMISSION

Mice can be infected through all routes experimentally. In natural infections skin abrasions serve as the main route of entry from:

- Direct contact
- Fomites



INFORMATION SHEET

INTERFERENCE WITH RESEARCH

Due to the widespread effects of ECT infection, there are huge implications for research outcomes. Some experiments have been reported to increase ECT severity and the susceptibility of mice to ECT infection.

DURABILITY

Resistant to:

- Ethers
- Trypsin
- Room temperature
- Dry conditions
- Lyophilisation

Susceptible to:

- Common detergents
- Formaldehyde
- Oxidizing agents
- Moist high temperatures (>50°C)

CONTROL

All imported mice are required to be screened for ECT by AQIS regulations, thus there should not be a need to control ECT as such, but maintenance of regular health monitoring of colonies is recommended. Sentinel mice are particularly useful as ECT can remain stable at room temperature in soiled bedding for up to 4 days. In the unlikely case of infection, mice should be culled and all facilities thoroughly disinfected (formaldehyde gas or contact sterilants such as 10% bleach).

POST INFECTION

Vaccination is an option if mice stocks are too valuable to be culled. Rederivation methods can also be employed.

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