



INFORMATION SHEET

MURINE CYTOMEGALOVIRUS

CLASSIFICATION

Family: Herpesviridae

Subfamily: Betaherpesvirinae

Genus: Muromegalovirus

- Linear, double-stranded, enveloped DNA virus
- ~240 kbp genome
- ~230 nm in diameter
- Replicates in nucleus

PREVALENCE

Common in wild mice, sometimes infected with more than two strains of MCMV. Relatively rare in laboratory mice.

DIAGNOSIS

ELISA, IFA, PCR, Histological Examination of submaxillary salivary glands

DISEASE/CLINICAL SIGNS

Natural infections of immunocompetent mice are subclinical.

Latent infections can occur in several organs including the kidneys, heart, lungs, and spleen.

Pathologic changes are limited to finding intranuclear inclusions in enlarged salivary gland cells.

STRAINS

Number not known but isolates of MCMV are widely used to model human cytomegalovirus infection. BALB/c and C57BL/10 mice are more susceptible to infection than are CBA/C3H mouse strains.

TRANSMISSION

MCMV is spread primarily through contact with infectious saliva, but may also be transmitted via tears and urine. There have been no documented cases of transplacental infection within mice. MCMV can remain latent in mice for long periods of time.

INTERFERENCE WITH RESEARCH

Natural MCMV infection has not been shown to interfere with research results.

Experimental infections may cause (and is not limited to):

- Lymphocyte proliferative responses to mitogens
- Allogeneic skin graft rejection
- Increased susceptibility to opportunistic infections
- Thrombocytopenia
- Depression of antibody production and interferon induction

DURABILITY

Sensitive to:

- Lipid solvents

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CONTROL

Maintain regular health monitoring of supplier sub-populations and strict protocols for barrier colonies. Exclude wild mice from facility. In experimental infections of mice, MCMV is readily spread between cage mates but not from one cage to another, thus appropriate measures of containment should be observed. Extreme care to be taken by testing transplantable tumour and cell lines before use.

POST INFECTION

Caesarean derivation may be used to maintain disease-free status of mouse colonies.

BIBLIOGRAPHY

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