

Murine cytomegalovirus (MCMV) infections in house mice: a matter of age or sex?

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Abstract

The murine cytomegalovirus (MCMV) may be used as a vector for fertility control in house mice, which are a significant agricultural pest in south-eastern Australia. The transmission of MCMV can be density dependent and is mostly subclinical in its effect on mice; however, little is known about which individual parameters influence whether an animal is likely to be infected or not.

We examined the impact of age and reproductive history on seroprevalence of MCMV in house mice during the breeding season. MCMV seroprevalence was density dependent and there was a linear increase in seroprevalence with increasing age, starting at 25% for 1-month-old mice and 100% for all individuals older than five months. There was no clear indication that the number of previous pregnancies was related to MCMV seroprevalence.

The high prevalence of MCMV among adult female house mice (84%) implies that an Australian field strain of MCMV could be a promising vector for an immunocontraceptive for house mice.