Background:

Murine Norovirus (*MNV*) is a Calicivirus, and unlike the human form which is thought to cause 50% of all viral GI disease worldwide, the mouse form, discovered in 2003, is nonpathogenic (except in very specific strains of immunocompromised mice) and has a prevalence of 58-64% in US populations.

MNV is transmitted via the orofecal route with tropism for dendritic cells and macrophages. Natural infection in immunocompetent mice causes no clinical effects but may cause histologic changes in the intestinal mucosa with seroconversion by day 21, although RAG mice will remain persistently infected.

MNV is lethal in Stat1 -/- mice and in Interferon alpha/beta/gamma null and newer studies are revealing that the virus may modulate disease progression in models involving studies of the dendritic and other non-T-cell systems such as Helicobacter-induced IBD. *MNV* also appears to prolong shedding in co-*MPV* infected mice.

Serology for *MNV* is highly sensitive and specific and diagnosis can be achieved by dirty bedding sentinel serology monitoring as well as fecal PCR testing.

Research Effects:

Although *MNV* currently is considered a non-pathogenic viral infection for the majority of mice, there is still much that is unknown about how it could affect certain types of research and/or strains, especially those involving the immune system. Ongoing studies with this virus will allow for a better understanding of its physiological effects and scientists should be aware that future recommendations regarding this virus may change.

Control/Prevention:

Every attempt is made to only acquire animals from approved vendors with documented histories of Norovirus-free mice. However, MNV is endemic in CSU animal facilities and to date, there has not been an investigator driven need for eradication. Therefore, we will accept MNV positive mice from other institutions.

There are currently no special containment procedures being used to control MNV. If you have concerns about MNV effects on your research mice, please do not hesitate to contact us.

References:

Lencioni KC, Drivdahl R, Seamons A, Treuting PM, Brabb T, Maggio-Price L. 2011. Lack of Effect of Murine Norovirus Infection on a Mouse Model of Bacteria-Induced Colon Cancer. Comp Med 61: 219-226.

Lencioni KC, Seamons, A, Treuting PM, Maggio-Price L, Brabb T. 2008. Murine Norovirus: An Intercurrent Variable in a Mouse Model of Bacteria-Induced Inflammatory Bowel Disease. Comp Med 58: 522-533.

Manuel CA, Hsu CC, Riley LK, Livingston RS. 2008. Soiled-bedding Sentinel Detection of Murine Norovirus 4. JAALAS 47: 31-36.