

NOVEL MURINE ASTROVIRUSES

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Background: Mice are critical animal models for scientists investigating both basic and applied research principles. Several novel murine astroviruses have been identified in mouse facility at Washington University School of Medicine. Astroviruses are RNA viruses often associated with gastrointestinal diseases in humans. Currently, there are no good models for studying human astroviruses; therefore the discovery of these murine astroviruses may provide a good animal model.

Technology Description: A test to detect murine astroviruses was developed by Dr. Herbert W. Virgin, an accomplished immunologist, member of the National Academy of Sciences and Chair of the Department of Pathology and Immunology and Dr. David Wang, an associate professor of the Department of Pathology and Immunology at the Washington University School of Medicine. They employed deep sequencing technology on mouse samples from mice with variant IBD phenotypes to identify novel astroviruses in mice. This led to the development of a quantitative PCR assay that specifically detects these viruses in murine fecal samples. Antibody assays may also be developed.

Key Advantages:

- **Simplicity:** PCR test can be performed on easily obtained murine fecal samples
- **Versatility:** Specific virus markers can be used in multiple test formats including genetic assays (PCR) and Ab-based assays (ELISA).
- **Validated:** PCR test detected virus in several mouse colonies including commercially purchased mice.