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<AT>Identification of a novel Aleutian mink disease virus B-cell epitope using a monoclonal antibody against VP2 protein

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<ABS-HEAD>Highlights ► 1. ³⁸⁶HLQQNFSTRYIYD³⁹⁸ is a linear B-cell epitope of the AMDV VP2 protein. ► 2. Sequence alignments demonstrated that linear epitope is highly conserved among AMDV strains except ³⁸⁶H, and less conserved among Raccoon dog amdovirus, Gray fox amdovirus, Red fox amdovirus, Bat parvovirus and Mink enteritis parvovirus. ► 3. The identified epitope can be recognized by AMDV positive serum, it may be useful for clinical applications.

<ABS-HEAD>Abstract

<ABS-P>Aleutian mink disease virus (AMDV) is a parvovirus that causes an immune complex-mediated disease in minks. Capsid protein VP2 is a major structural viral protein and can be used to diagnose AMDV. In this study, a specific monoclonal antibody, 1M13, was produced against the AMDV VP2 protein (amino acids 291–502). A linear VP2-protein epitope was identified by subjecting a series of partially overlapping synthesized peptides to enzyme-linked immunosorbent assay (ELISA) analysis. The results indicated that ³⁸⁶HLQQNFSTRYIYD³⁹⁸ was the minimal linear epitope that could be recognized by mAb 1M13. ELISA assays revealed that mink anti-AMDV sera could also recognize the minimal linear epitope. Sequence alignments demonstrated that the linear epitope is highly conserved among AMDV strains except

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