Preparation of monoclonal antibody of anti-feline calicivirus and establishment of double-antibody sandwich enzyme-linked immunosorbent assay detecting method

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ABSTRACT. This study aimed to prepare monoclonal antibody of feline calicivirus (FCV) and identify its basic biological characteristics. Saturated ammonium sulfate precipitation, combined differential centrifugation, and cesium chloride density gradient centrifugation were used for the purification of FCV. The purified FCV was used as antigen to immunize BALB/c mice. The hybridoma lines of anti-FCV monoclonal antibodies were established using cell fusion and hybridoma screening techniques. The subtypes of the monoclonal antibody were identified. The results showed that 3 strains of hybridoma cell lines stably secreted anti-FCV monoclonal antibody; they were named as D8, E5, and H4. The D8 and E5 were IgM subtype antibodies, and H4 was IgG2b subtype antibody. The monoclonal antibody obtained shared no cross-reactivity with feline parvovirus, canine parvovirus, and canine distemper virus. According to the different recognition sites of 2 monoclonal antibodies E5 and H4 to the FCV, they were used to coat microtiter plates and prepare 2 enzyme-labeled secondary antibodies to establish double-antibody
sandwich enzyme-linked immunosorbent assay detecting method.

**Key words:** Feline calicivirus; Monoclonal antibodies; Double-antibody sandwich ELISA