Czech Academy of Agricultural Sciences

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Veterinarni Medicina

Isolation, immunochemical demonstration of field strains of porcine group A rotaviruses and electrophoretic analysis of RNA segments of group A and C rotaviruses

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[fulltext]

Rotaviruses are major cause of acute diarrhea in animals and humans which can result in huge economic losses in farm animals including pigs. We collected 195 samples of feces of diarrhoeic animals. Rotavirus was demonstrated by electron microscopy using the method of negative staining in 27 samples and by ELISA test using monoclonal antibodies to the group antigen VP6 in 44 samples. Nine samples were selected for virus isolation. Three virus isolates (P375/4, P410/4 and P646/1) were successfully adapted to growth in cell line MA-104. These isolates were allocated to group A rotaviruses based on ELISA,

electropherotype analysis. Electropherotype analysis demonstrated changes during passage in cell line in two of the three isolates. The selected sample P543/1 proved negative in ELISA in a fecal sample. Electropherotype analysis of this sample revealed a “longer” electropherotype profile. The profile was suggestive of group C rotavirus. Rotavirus group C was confirmed by RT-PCR and by sequence analysis in this sample.

Keywords:

cell line MA-104; electron microscopy; immunoperoxidase test; ELISA; monoclonal antibody; electropherotype; group A and C rotavirus; RT-PCR

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