

**In situ hybridization and Immunohistochemistry for the possible tools
in diagnosis of Porcine Epidemic Diarrhea Virus in Piglets.**

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A study was conducted to assess diagnostic usefulness of immunohistochemistry (IHC) and *in situ* hybridization (ISH) for porcine epidemic diarrhea virus (PEDV) after oral inoculation of the virus in piglets. The infected piglets were necropsied at 6, 12, 18 and 24 h post-inoculation (hpi). Tissues were collected from various parts of the intestine and used in H-E staining, IHC and ISH. Microscopically, vacuolation of villous enterocytes of the duodenum, jejunum and ileum was first observed at 18 hpi. Exfoliation of the enterocytes in infected areas was observed at 24 hpi in the H-E stained tissues. However, no histological changes were observed in the colon. Using ISH and IHC, specific PEDV antigens and nucleic acids were detected in the villous enterocytes of duodenum, proximal and distal part of jejunum, and ileum as early as at 6 hpi. These antigens and nucleic acids were also detected in the villous enterocytes of colon at 12 hpi. These results indicate that ISH and IHC are possible for the diagnosis of PEDV infection.

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