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Citation	Japanese Journal of Veterinary Research, 45(2), 114-114
Issue Date	1997-08-29
Doc URL	https://hdl.handle.net/2115/4615
Type	departmental bulletin paper
File Information	KJ00002398529.pdf



Analysis of the glycoprotein 25 coding region
of the bovine viral diarrhea virus gene

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Cattle persistently infected with bovine viral diarrhea virus (BVDV) excrete the virus continuously without any clinical signs, and are serious sources of infection of BVDV in a herd. To diagnose the BVDV infection accurately and rapidly, polymerase chain reaction (PCR) has been utilized. By the use of specific primers for detecting p14 and gp25 coding regions of the BVDV gene, it was possible to discriminate the viral serotypes based on the PCR-amplification patterns. However, PCR-amplification patterns of several field isolates from Hokkaido did not correspond to any Japanese BVDV strains. In this study, to clarify the relation between PCR-amplification patterns and viral serotypes, a new primer coding the gp25 region of the BVDV gene was designed and PCR was performed on Japanese BVDV strains, field isolates, and bovine leukocytes. Then nucleotide sequences and de-

duced amino acid sequences of the PCR products were compared. Nucleotide sequences and deduced amino acid sequences of the PCR products were highly homologous. Therefore gp25 seemed not to be involved in the different PCR-amplification patterns. Analysis of the amino acid sequences indicated that the hydrophobicity of gp25 was highly conserved among PCR products examined in this study. This region might be a transmembrane domain of gp25, and function as an anchor for gp53 and gp48, which induce neutralizing antibodies.

Additionally, a gene highly homologous with gp25 of BVDV was detected in the bovine genome in leukocytes. This gene was recognized in not only BVDV-infected cattle but also in uninfected cattle. This gene might play an important role in BVDV attachment to or invasion of host cells.

Isolation and identification of the rumen bacteria responsible for
the onset of onion-induced hemolytic anemia in ruminants

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Onions (*Allium cepa*) are known to cause hemolytic anemia in many domestic animals, especially in cattle. The mechanism of onion-poisoning, however, has not been fully under-

stood. In the present study, some rumen bacteria capable of producing certain toxic compounds from onions were isolated and identified by the following procedure.