

BOVINE PAPILLOMAVIRUS TYPE 2 DETECTION IN BLOOD OF ASYMPTOMATIC LIMOUSINE BREED CATTLE

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Abstract

Bovine Papillomaviruses (BPV) are double-stranded DNA viruses, known to infect ruminants and equines. In bovines, up to 29 genotypes of BPV have been described and classified based on the nucleotide sequence identity of L1 open reading frame. The aim of this study was to detect bovine papillomavirus type 1, 2 and 4 in the blood collected from clinically healthy Limousine cattle, with history of papillomatosis. Fourteen blood samples were collected from a cattle farm, located in Suceava County, Romania. The viral DNA was extracted using PureLink™ Genomic DNA Mini Kit, following the manufacture's instruction. Papillomavirus DNA was confirmed by PCR, using type specific primers for BPV-1 L1 gene, BPV-2 L2 gene and BPV-4 E7 gene detection. PCR products were electrophoresed on 2% agarose gel and visualized with UV transillumination. None of the blood samples tested positive for BPV-1 nor BPV-4. A fragment of 164 base pairs corresponding to BPV-2 L2 gene was amplified in 10 (92,2%) samples, while 4 samples were negative (7,8%). This is the first time when in Romania, to authors best knowledge, BPV-2 is detected in blood samples collected from cattle. Moreover, BPV-2 persists and is maintained in the bloodstream of the asymptotically cattle, representing a potential reservoir of viral infection.

Key words: BPV-2, blood, PCR
