

IMMUNOCHROMATOGRAPHIC ASSAY FOR DIAGNOSIS OF BOVINE LEUKAEMIA VIRUS INFECTION IN COWS USING THE RECOMBINANT PROTEIN GP51

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Abstract. Infection with bovine leukaemia virus (BLV) is prevalent in herds in Kazakhstan. Current diagnostics of the BLV infection in Kazakhstan is based on the detection of antibodies against viral proteins p24 or gp51. Two methods are routinely used, enzyme-linked immunosorbent assay (ELISA) and agar gel immunodiffusion (AGID). Detection of the anti-gp51 antibodies has some advantage over targeting the anti-p24, because the anti-gp51 are present in higher titers and appear sooner after the onset of the disease. We describe an immunochromatographic (ICA) assay to detect the BLV infection in cows which utilizes recombinant protein gp51 as a capture antigen. Diagnostic characteristics of the ICA were determined in comparison with gold standard (AGID) using a panel of 310 cow sera. The ICA showed excellent diagnostic properties, such as high specificity (165/165, 100%) and sensitivity (141/145, 97.2%).

Keywords: enzootic bovine leukosis; gold nanoparticles; antigen gp51; immune chromatography; recombinant antigen