Design and construction of a recombinant gene construct expressing bovine leukemia virus p24 protein in *Escherichia coli*

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Abstract

Enzootic bovine leukemia (EBL) is a retroviral disease which is caused by bovine leukemia virus (BLV) and typically occurs in the industrial farms. The disease reduces the productivity of animals and therefore causes considerable economic losses in herd. BLV infections control program is consisted on serological assays, identification and isolation or culling the seropositive animals. In this study, the gene encoding p24 protein of BLV was amplified by PCR, ligated into the prokaryotic expression vector, pMalc2x, and subsequently expressed in DH5α strain of *Escherichia coli*. Expressed recombinant protein was analyzed using SDS-PAGE and western blotting (immunoblot) assay. Molecular weight of the expressed protein (63 kDa) was consistent with the expected molecular weight of maltose binding protein-p24 fusion protein. Western blotting analysis showed that the expressed p24 protein specifically reacted with a positive anti-BLV commercial serum. Thus, in this study the p24 protein of BLV was successfully expressed by the pMalc2x-p24 recombinant construct in *Escherichia coli*.

Key words: Bovine leukemia virus (BLV), p24 recombinant protein, *Escherichia coli*

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