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Production of Recombinant VP2 Protein of Canine Parvovirus 2a Using Baculovirus Expression System

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Abstract : An VP2 gene from the current prevalent CPV (Canine Parvovirus) strain (new CPV-2a) in the Republic of Korea was expressed in a baculovirus expression system. Genomic DNA was extracted from the isolate strain CPV-2a. The recombinant baculovirus, containing the coding sequences of VP2 with the histidine tag at the N-terminus, were generated by using the Bac-to-Bac system. For production of the recombinant VP2 proteins, SF9 cells were transfection into 6 wells. Propagation of recombinant baculoviruses and expression of the VP2 protein were performed in the Sf9 cell line maintained. The proteins were detected to Western blot anlaysis. CPV-2a VP2 was detected by Western blotting the monoclonal antibodies recognized 6x His and the band had a molecular weight of 65 KDa. We demonstrated that recombinant CPV-2a VP2 expression in baculovirus. The recombinant CPV-2a VP2 may able to development of specific diagnostic test and vaccination of against CPV2. This study provides a foundation for application of CPV2 on the development of new CPV2 subunit vaccine.

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