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Abstract
The Hz-1 virus is a member of insect baculovirus, which can establish both persistent and productive infection in several lepidopteran cell lines. One results revealed that both heat and UV treatments of Hz-1 virus reduced the enhancement of hhi1 promoter activity indicating that the protein(s) on the nucleocapsid was candidate of activator to enhance the expression of hhi1. We further cloned Hz1V011 and Hz1V046, the two ORFs showing homologies to two baculovirus structure proteins: p74 and vp91-capsid associated protein, and performed cotransfection of pKS/hsp-V011 and pKS/hsp-V046 with a plasmid which expressed luciferase gene by hhi1 promoter (-688/+277) respectively. The results showed that both Hz1V011 and Hz1V046 could activate hhi1 promoter (-688/+277). Previous studies of temporal hhi1 promoter activity revealed that hhi1 promoter activity decreased from (-688/+277) to (-403/+277). These results strongly suggested that activator(s) bind to hhi1 promoter at region between –688 and -403. The computer similarity analysis of region between –688 and -403 with database of HGP in Japan showed 100% identity of five motifs: HSF (-592/-588, and –645/-641), CdxA (-480/-485), AML-1a (-655/-660, -578/-584), within –688/-403. We subjected gel mobility shift assay with fragment (–688/-557) labeled with Cy-3, however, failed to find any protein binding to this region. In order to study the profile of HHI1 during viral infection, we prepared an antibody generated by injecting New Zealand white rabbit with antigen covering amino acid number 200 to 400 of HHI1. From the results of Western blot, a 40-kd subunit was detected by 12 hours after Hz-1 viral infection and decreased 24 hours after infection. This data suggested that HHI1 protein could be cleavaged during viral infection.
Advisory Committee Lee Song Tay - advisor

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