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V PROTEIN OF PPRV PLAYS A VITAL ROLE IN ESCAPE FROM HOST IMMUNITY BY INHIBITING THE INTERFERONS

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Peste des Petits Ruminants Virus (PPRV) causes a highly pathogenic and mortal disease in small ruminants including both domestic and world, such as goats and sheep. The non-structural protein V plays vital roles in escaping from the host immunity by inhibiting the Interferons. In present study, recombinant plasmids were firstly constructed to express the non-structural V gene. Subsequently, real-time PCR is used to investigate if the PPRV V protein inhibitsf the interferons. The results showed that the expression of IFN-β, and its downstream interferon stimulated genes, such as 56 (ISG56), ISG15 and C-X-C motif chemokine (CXCL-10 were down-regulated at the transcriptional levels. Furthermore, 293T cells were pretreated with IFN-α (2b) or supernatants from co-transfected cells, then infected with Sendai virus (SeV), vesicular stomatitis virus (VSV), encephalomyocarditis virus (EMCV), or hepatitis E virus (HEV). The results of qPCR suggest that V protein can inhibit the interferons in both endogenous and exogenous levels. In addition, the level of phosphorylated IFN regulatory factor 3 (IRF3) stimulated by virus was enhanced in the absence of V protein. Collectively, we have already demonstrated that PPRV V protein can inhibit the type I interferon pathway. Our studies give a new sight for the future studies to understand how the PPRV escape from host immunity.

Biography

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