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Title:	Role of interferons in maintaining the integrity of Blood brain barrier during PPRV infection
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Abstract:	Type-I interferon signaling plays an essential role in maintaining the blood brain barrier (BBB) permeability. It has been observed that neurotropic viruses enter the CNS territory by breaching the BBB. Here in this study an attempt was made to decipher the role of the type-I interferons in maintaining the BBB permeability in PPRV infection model. FITC was used as a tracer to check the BBB permeability. Previous studies done in the lab have suggested that the PPRV enters the brain of IFNR K/O mouse so the susceptibility of PPRV to different parts of the brain was checked by performing RT-qPCR analysis using RNA polymerase and Nucleoprotein specific primers. Levels of GFAP were also checked in IFNR K/O mouse brain during PPRV infection as GFAP plays an important role in preserving the permeability of BBB. From our studies, it was observed that the FITC positive cells were high in the IFNR K/O mice as compared to the wild type mice hinting towards the permeability of BBB in IFNR K/O mice. In another experiment, it was observed that the maximum increase in viral load was observed in the hippocampus of IFNR K/O mice after 3 dpi and 5 dpi during PPRV infection. The increased level of GFAP in hippocampus of IFNR K/O mice after infection with PPRV also confirmed the protective effect of GFAP in maintaining the integrity of BBB. The purification and the characterization of the VHH against PPRV was also done to further explore its role as a therapeutic agent against PPRV infection.
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