

## Regulation of RON-Receptor Tyrosine Kinase Functions by Epstein-Barr-Virus (EBV) Nuclear Antigen 3C

**Authors :** Roshika Tyagi, Shuvomoy Banerjee

**Abstract :** Among various diseases, cancer has become a huge threat to human beings globally. In the context of viral infection, Epstein-Barr virus (EBV) infection is ubiquitous in nature world-wide as well as in India. Recepteur d'Origine Nantais (RON) receptor tyrosine kinase is overexpressed in Lymphoblastoid cell lines (LCLs) but undetectable in primary B-cells. Biologically, RON expression was found to be essential for EBV transformed LCLs proliferation. In our study, we investigated whether EBV latent antigen EBNA3C is playing a crucial role in regulating RON receptor tyrosine kinase function in EBV-induced malignancies. Interestingly, we observed that expression pattern of RON was modulated by EBNA3C in EBV transformed LCLs compared with EBV negative BJAB cell line by PCR and western blot analysis. Moreover, in the absence of EBNA3C, RON expression was found low in western blot and immunofluorescence analysis and cell proliferation rate was significantly reduced in LCLs by cell viability assays. Therefore, our study clearly indicating the potential role of EBNA3C expressed in EBV-infected B-cells for modulating the functions of oncogenic kinases that leads to EBV induced B-cell transformation.

**Keywords :** apoptosis, cell proliferation, Epstein-barr virus, receptor tyrosine kinase

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