

OS01-3 Induction mechanism of Host protein Ebp1 by Influenza virus infection

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The genome of influenza virus is negative strand RNA and segmented to eight. A pan-handle structure is formed between 3'- and 5'- end of each segment by base-pairing. The handle region functions as promoter, the RNA dependent RNA polymerase binds on this region. The viral RNA polymerase is composed of three proteins, PB2, PB1 and PA that are encoded in viral gene. The viral RNA polymerase synthesizes two different RNAs, mRNA and cRNA, from one template. To synthesize two different RNA, it was speculated to convert the polymerase by some host factor(s). Among the candidates of host factors which interacted with the subunits of viral RNA polymerase, we found that Ebp1 interacted with PB1 subunit and inhibited the viral RNA synthesis but not endonuclease function of viral RNA polymerase in vitro. Ebp1 was found as an interacting protein with ErbB3 by Humburger et al. The C-termini of Ebp1 interacts with the nucleotide binding region of PB1 subunit. Interestingly Ebp1 is induced by influenza virus infection. We found that vRNP (vRNA, viral RNA polymerase and NP) induced Ebp1 expression.