

Abstract

The *Y. enterocolitica* Ysc- Yop T3SS and its effectors are essential for bacteria to survive and overcome host immune system. Its expression at the transcriptional level is thermo-controlled by the AraC transcriptional activator VirF. The role of VirF in transcriptional regulation of *Y. enterocolitica* Ysc- Yop T3SS genes has been well documented by many authors. Currently, our lab has been underway to study about transcriptional regulation of *virF*. We has proved that the *virF* together with the *yscW* located upstream of *virF* are transcribed as an operon from the promoter P_{yscW} like the manner of their homologs, *exsA* and *exsB* in *P. aeruginosa*. The *P. aeruginosa* *exsA* encodes for its T3SS transcriptional activator ExsA which can auto-regulate transcription of its *exsCBA* operon. In this study, we investigated the effect of VirF on the activity of promoter P_{yscW} using a transcriptional fusion to the lacZ in response to temperature. The complementation analysis revealed that VirF does not have any influence to activity of promoter P_{yscW} at low (26°C) or high (37°C) temperature in the manner of its homolog ExsA.