

***AEDES* INNATE IMMUNE RESPONSES TO VIRUS INFECTION**

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Diseases caused by arthropod-borne virus are significant public health problems, and novel control methods are needed to block pathogen transmission. Although *Aedes aegypti* is the main vector of both yellow fever and dengue virus, little is known about mosquito responses to virus infection. Innate immune responses are mediated by activation of signaling pathways, in response to specific cell-pathogen interactions. In *Aedes aegypti*, it was shown that infections by fungi and gram-positive bacteria activate mostly toll pathway, through NF-Kb related transcription factor Rel 1, while gram-negative bacteria activates IMD pathway through another NF-Kb related transcription factor, Rel 2. In this work we analyzed the involvement of the three major mosquito immune pathways in response to sindbis and dengue virus infection. Both viral infections triggered an increase of Rel 1, Rel 2 and STAT relative expression in *Aedes aegypti* mosquitoes and *Aedes albopictus* C6/36 cell line. In addition, blood fed mosquitoes presented higher levels of these transcription factors when compared with sugar or latex-fed mosquitoes, indicating that blood-induced activation of innate immune pathways can be an important factor in pathogen invasion and vector competence.

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