THE MITOGEN-ACTIVATED PROTEIN KINASES ERK, JNK AND p38 AND EGR-1 ARE ACTIVATED UPON ARAÇATUBA VIRUS

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The Mitogen-Activated Protein kinases (MAPKs) cascades are multifunctional signaling pathways that are evolutionally well conserved in all eukaryotic cells. The MAPK (ERK, JNK and p38) influences cell growth, differentiation, apoptosis and cellular responses to stress, including viral infection. The infection reorganizes or utilizes various cellular functions and takes advantage of the preexisting signaling pathways to promote viral replication. *Araçatuba virus* (ARAV) is a member of the *Poxviridae* family of enveloped DNA viruses that replicates entirely in the cytoplasm of infected cells. In this study, we demonstrated that ARAV triggers the activation of the three above-mentioned MAPKs and the transcription factor Egr-1 from early to late times (6 – 72 hpi) during the virus replication cycle. However, either the pharmacological blockade of SAPKs (JNK and p38) pathways or infection of JNK KO cells did not interfere with ARAV replication. Kinetic study showed that ARAV stimulated EGR-1 expression from 6-48 hpi and that EGR-1 is not required for virus multiplication, since the virus yield upon infection of ERG KO cells was not affected at all. Whether ERK plays a role in virus replication, and if JNK and EGR-1 is associated with viral release from the infected cells are under investigation.

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