MKP5, A Novel Regulator Of IRF3-Type I IFN, Critically Modulates Host-Pathogen Interaction In Influenza And Other RNA Virus Infection

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Abstract
MAPK phosphatases (MKPs), also known as dual-specificity phosphatases (DUSPs), are important regulators in both innate and adaptive immune responses. They regulate the activity of their substrates by removing phosphates on tyrosine and serine/threonine residues. Previously, we have shown that MKP5, one of the MKP proteins, is important for T helper cell activation and effector function mainly through its regulation on JNK activation. Our recent investigation reveals a novel function of MKP5 in regulation of IRF3-type I interferon responses upon RNA virus infection including the infection of influenza, VSV and SeV viruses. The function of MKP/DUSP in immune regulation of RNA viral disease may represent a pathway to be further explored for therapeutic purposes.

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