

P051 Activation of NF- κ B: A novel approach to vaccination
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Providing safe and efficacious vaccination strategies for viral disease and cancer has proved problematic and requires the development of effective vaccine adjuvants. Pattern-recognition receptors utilise intracellular signalling molecules to activate transcription factors, such as NF- κ B, that in turn mediate the immune response. These molecules are potential targets to upregulate *in vivo* during vaccination.

One such molecule, NF- κ B Inducing Kinase (NIK) can activate NF- κ B when over-expressed. In dendritic cells it has been shown to increase cytokine, chemokine and cell-surface marker expression. NIK was co-expressed with a model antigen (GFP) by an adenovirus. *In vivo*, NIK was able to enhance the immune response to the co-expressed GFP antigen and induce the production of a predominantly type-1 immune response. This was shown by the increased ratio of IgG2a to IgG1, as well as increased IFN- γ production ($p < 0.01$) and CTL responses in lymph-node cultures when compared to recombinant antigen delivered in Freund's adjuvant. We have now developed adenoviruses that express both NIK and an Influenza antigen to evaluate this approach to protect against disease *in vivo*.

The activation of NF- κ B directly provides a novel and effective vaccine approach to be used to prevent disease.