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# NIK (h3): 293T Lysate: sc-158772

## BACKGROUND

The NF $\kappa$ B transcription factor can be activated by several cytokines, including TNF and IL-1. The TNF receptor activates NF $\kappa$ B through the TRAF2 adapter protein, whereas the IL-1 receptor activates NF $\kappa$ B in a pathway involving TRAF6. Both TRAF2 and TRAF6 have been shown to interact with a serine/threonine kinase, designated NF $\kappa$ B inducing kinase (NIK), which appears to participate in the NF $\kappa$ B signaling cascades triggered by both TNF and IL-1. NIK associates with, and is a costimulator for I $\kappa$ B kinase  $\alpha$  (IKK $\alpha$ ). IKK $\alpha$ , in turn, phosphorylates I $\kappa$ B, resulting in I $\kappa$ B degradation and NF $\kappa$ B activation. NIK has sequence similarity to several kinases that participate in MAP kinase cascades. NIK appears to be uninvolved in the TRAF2-mediated activation of JNK by TNF.

## REFERENCES

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2. Hsu, H., Shu, H.B., Pan, M.G. and Goeddel, D.V. 1996. TRADD-TRAF2 and TRADD-FADD interactions define two distinct TNF receptor 1 signal transduction pathways. *Cell* 84: 299-308.
3. Cao, Z., Xiong, J., Takeuchi, M., Kurama, T. and Goeddel, D.V. 1996. TRAF6 is a signal transducer for interleukin-1. *Nature* 383: 443-446.
4. Malinin, N.L., Boldin, M.P., Kovalenko, A.V. and Wallach, D. 1997. MAP3K-related kinase involved in NF $\kappa$ B induction by TNF, CD95 and IL-1. *Nature* 385: 540-544.
5. Song, H.Y., Regnier, C.H., Kirschning, C.J., Goeddel, D.V. and Rothe, M. 1997. Tumor necrosis factor (TNF)-mediated kinase cascades: bifurcation of nuclear factor- $\kappa$ B and c-Jun N-terminal kinase (JNK/SAPK) pathways at TNF receptor-associated factor 2. *Proc. Natl. Acad. Sci. USA* 94: 9792-9796.
6. Regnier, C.H., Song, H.Y., Gao, X., Goeddel, D.V., Cao, Z. and Rothe, M. 1997. Identification and characterization of an I $\kappa$ B kinase. *Cell* 90: 373-383.
7. DiDonato, J.A., Hayakawa, M., Rothwarf, D.M., Zandi, E. and Karin, M. 1997. A cytokine-responsive I $\kappa$ B kinase that activates the transcription factor NF $\kappa$ B. *Nature* 388: 548-554.

## CHROMOSOMAL LOCATION

Genetic locus: MAP3K14 (human) mapping to 17q21.31.

## PRODUCT

NIK (h3): 293T Lysate represents a lysate of human NIK transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

NIK (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive NIK antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## STORAGE

Store at -20 $^{\circ}$  C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

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