

Product Information

Anti-NIK (NF- κ B Inducing Kinase)

produced in rabbit, IgG fraction of antiserum

Catalog Number **N0149**

Product Description

Anti-NIK (NF- κ B Inducing Kinase) is produced in rabbit using a peptide corresponding to amino acids 931-947 of the C-terminal of human NIK as immunogen.¹

Anti-NIK (NF- κ B Inducing Kinase) recognizes human NIK (NF- κ B Inducing Kinase) by immunoblotting (110 kDa).

Apoptosis or programmed cell death, occurs during normal cellular differentiation and development of multicellular organisms. Apoptosis is induced by certain cytokines including TNF and Fas ligand of the TNF family through their death domain (DD)-containing receptors, TNFR1 and Fas. The death signals are transduced by a group of DD-containing adapter molecules.

Nuclear factor kappa B (NF- κ B) is a ubiquitous transcription factor. It is an essential mediator of gene expression during activation of immune and inflammatory responses. NF- κ B mediates the expression of a great variety of genes in response to extracellular stimuli including IL-1, TNF α , LPS, and mitogens. NIK (NF- κ B inducing kinase) mediates NF- κ B activation by IL-1, TNF α , and CD95.¹ It is a serine/threonine protein kinase and a member of the mitogen-activated protein kinase kinase kinase family (MAP3K).¹ The interaction of TRADD with TRAF2 and RIP activates NIK.¹ Once NIK is activated, it further activates two downstream kinases, IKK α and IKK β .¹⁻⁹ It has been shown that IKK α and IKK β form a heterodimer complex that directly phosphorylates I κ Bs.¹⁻⁹ Once I κ Bs are phosphorylated, they are degraded, and consequently the active NF- κ B is released.^{10,11}

Reagents

Supplied at 1 mg/ml in phosphate buffered saline, containing 0.02% sodium azide.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Antibody can be stored at 2-8 °C for three months and at -20 °C for one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Product Profile

Immunoblotting: the recommended working concentration is 1-2 μ g/ml using total K562 lysate.

Note: In order to obtain best results and assay sensitivities of different techniques and preparations, we recommend determining optimal working dilutions by titration test.

References

1. Malinin, N.L. et al., MAP3K-related kinase involved in NF- κ B induction by TNF, CD95 and IL-1. *Nature*, **385**, 540-544 (1997).
2. Regnier, C.H. et al., Identification and characterization of an I κ B kinase. *Cell*, **90**, 373-383 (1997).
3. Woronicz, J.D. et al., I κ B kinase- β : NF- κ B activation and complex formation with I κ B kinase- α and NIK. *Science*, **278**, 866-869 (1997).
4. Zandi, E. et al., The I κ B kinase complex (IKK) contains two kinase subunits, IKK α and IKK β , necessary for I κ B phosphorylation and NF- κ B activation. *Cell*, **91**, 243-252 (1997).
5. DiDonato, J.A. et al., A cytokine-responsive I κ B kinase that activates the transcription factor NF- κ B. *Nature*, **388**, 548-554 (1997).
6. Mercurio, F. et al., IKK-1 and IKK-2: cytokine-activated I κ B kinases essential for NF- κ B activation. *Science*, **278**, 860-866 (1997).
7. Karin, M., and Delhase, M., JNK or IKK, AP-1 or NF- κ B, which are the targets for MEK kinase 1 action? *Proc. Natl. Acad. Sci. USA*, **95**, 9067-9069 (1998).
8. Ling, L. et al., NF- κ B-inducing kinase activates IKK- α by phosphorylation of Ser-176. *Proc. Natl. Acad. Sci. USA*, **95**, 3792-3797 (1998).

9. Nakano, H. et al., Differential regulation of I κ B kinase α and β by two upstream kinases, NF- κ B-inducing kinase and mitogen-activated protein kinase/ERK kinase kinase-1. *Proc. Natl. Acad. Sci. USA*, **95**, 3537- 3542 (1998).
10. Verma, I.M. et al., Rel/NF- κ B/I κ B family: intimate tales of association and dissociation. *Genes Dev.*, **9**, 2723-2735 (1995).
11. Finco, T.S., and Baldwin, A.S., Mechanistic aspects of NF- κ B regulation: the emerging role of phosphorylation and proteolysis. *Immunity*, **3**, 263-272 (1995).

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