NIK ABfinity™ Recombinant Rabbit Monoclonal Antibody - Purified

REF Catalog no. 700281

(See product label for lot information)

Clone/PAD: 3H31L48
Isotype: IgG
Gene ID: 9020
Protein Acc. No.: Q99558
Qty: 100 µg
Volume: 200 µl
Concentration: 0.5 mg/ml

Formulation
PBS + 0.09% azide

Immunogen
A recombinant protein corresponding to amino acids 706-860 of Q99558.

Immunogen sequence
TTGRAPKLQPPLPPEPPEPNKSPPLTLSK
EESGMWEPLPLSSLEPAPARNPSSPERK
ATVPEQELQQLEIELFLNSLSQPFSLEEQE
QILSCLSIDSLSLSDDSEKNPSKASQSSRD
TLSSGVHSWSSQAEARSSSWNMVLARG
RPTDTPSYFNG

Reactivity
This antibody reacts with Human NIK. Based on sequence similarity, reactivity to Rhesus monkey, mouse, rat, bovine, equine, and chicken is expected.

Storage
2-8°C for up to 1 mo, -20°C for long term storage. Avoid repeated freezing and thawing.

Expiration Date
Expires one year from date of receipt when stored as instructed.

Validated Applications:

	Species	Test Material	Concentration
Western Blotting	human	293 + NIK-FLAG	10-20 µg/ml
Immunofluorescence	human	293 + NIK-FLAG	4-6 µg/ml

Background
NIK, also known as mitogen-activated protein kinase kinase kinase (MAP3K) 14 is an NF-κB inducing protein kinase of the serine/threonine kinase family. NIK binds to Traf2 to activate NF-κB as part of a signaling cascade involving receptors of the TNF/NGF family and the interleukin-1 type-I receptor (1). NIK protein is shuttled between cytosolic, nuclear and nucleolar compartments (2). When shuttled to the nucleoli, NIK-dependant NF-κB activation is impaired relative to its nuclear localization revealing a possible means of regulation (3). Reactive oxygen species can interact directly with NIK to alter NF-κB activation (4). Additionally, NIK specifically interacts with Down syndrome candidate region 1 (DSCR1) blocking its proteosomal degradation leading to DSCR1 accumulation and cytotoxicity (5).

References

1. Malinin, N.L. et al. (1997) MAP3K-related kinase involved in NK-κB induction by TNF, CD95 and IL-1. Nature 385: 540-544.
2. Birbach, A., et al. (2002) Signaling molecules of the NF-κB pathway shuttle constitutively between cytoplasm and nucleus. J. Biol. Chem. 277: 10842-10851.
3. Birbach, A., et al. (2004) Cytosolic, nuclear, and nucleolar localization signals determine subcellular distribution and activity of the NF-κB inducing kinase NIK. J. Cell Sci. 117: 3615-3624.
4. Wang, Y. et al. (2007) The endogenous reactive oxygen species promote NF-κB activation by targeting on activation of NF-κB-inducing kinase in oral squamous carcinoma cells. Free Rad. Res. 41: 963-971.
5. Lee, E.J. et al. (2008) NF-κB-inducing kinase phosphorylates and blocks the degradation of Down syndrome candidate region 1. J. Biol. Chem. 283: 3394-3400.

For research use only. CAUTION: Not intended for human or animal therapeutic or diagnostic use.

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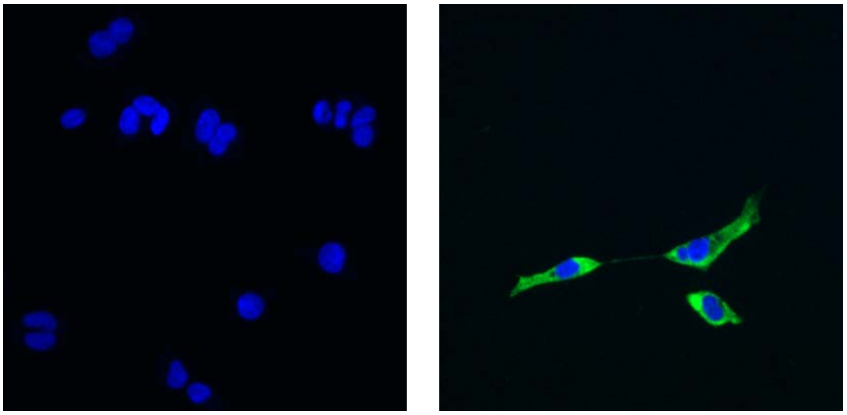
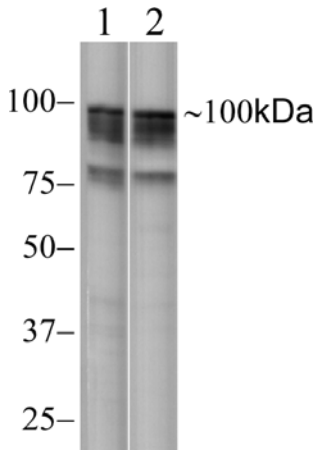


Immunocytochemistry of NIK-transfected 293 cells labeled with rabbit anti-NIK (Cat. No. 700281).

Rabbit anti-NIK (5 µg/ml) was used to label NIK in 293 cells transfected with (right) or without (left) NIK. Alexa Fluor® 488 goat anti-rabbit (Cat. No. A11008) at 1:1000 was used as secondary antibody. Hoescht staining of nucleus (blue), AF488 signal (NIK, green).



Western blot of 293 lysates labeled with rabbit anti-NIK (Cat. No. 700281).

Rabbit anti-NIK (15 µg/ml) was used to label FLAG-tagged NIK in transfected 293 lysates (lane 2). Anti-FLAG was used as a control (lane 1).

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