SANTA CRUZ BIOTECHNOLOGY, INC.

# NIK (H-248): sc-7211

## BACKGROUND

The NFκB transcription factor can be activated by several cytokines including TNF and IL-1. The TNF receptor activates NFκB through the Traf2 adaptor protein, whereas the IL-1 receptor activates NFκB in a pathway involving Traf6. Both Traf2 and Traf6 have been shown to interact with a serine/threonine kinase designated NFκB inducing kinase (NIK), which appears to participate in the NFκB signaling cascades triggered by both TNF and IL-1. NIK associates with, and is a costimulator for, IκB kinase a (IKKα). IKKα in turn, phosphorylates IκB, resulting in IκB degradation and NFκB 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.

## CHROMOSOMAL LOCATION

Genetic locus: MAP3K14 (human) mapping to 17q21.31; Map3k14 (mouse) mapping to 11 E1.

## SOURCE

NIK (H-248) is a rabbit polyclonal antibody raised against amino acids 700-947 mapping at the C-terminus of NIK of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose (sc-7211 AC) conjugate for immunoprecipitation, 500 µg/0.25 ml agarose in 1 ml.

## APPLICATIONS

NIK (H-248) is recommended for detection of NIK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NIK (H-248) is also recommended for detection of NIK in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NIK siRNA (h): sc-36065, NIK siRNA (m): sc-36066, NIK shRNA Plasmid (h): sc-36065-SH, NIK shRNA Plasmid (m): sc-36066-SH, NIK shRNA (h) Lentiviral Particles: sc-36065-V and NIK shRNA (m) Lentiviral Particles: sc-36066-V.

Molecular Weight of NIK: 130 kDa.

Positive Controls: NIK (h): 293T Lysate: sc-115232, COS whole cell lysate: sc-364228 or A549 cell lysate: sc-2413.

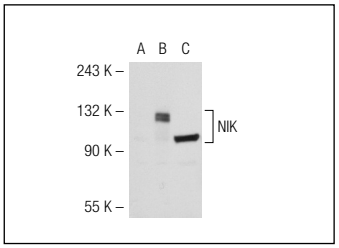
## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

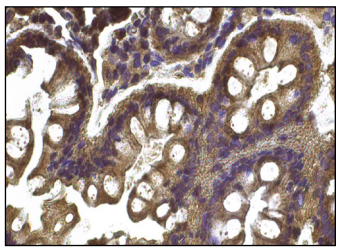
## RESEARCH USE

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

## DATA




NIK (H-248): sc-7211. Western blot analysis of NIK expression in non-transfected 293T: sc-117752 (**A**), human NIK transfected 293T: sc-115232 (**B**) and COS (**C**) whole cell lysates.



NIK (H-248): sc-7211. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS


1. Li, X.H., et al. 1999. The human T-cell leukemia virus type-1 Tax protein regulates the activity of the IκB kinase complex. J. Biol. Chem. 274: 34417-34424.
2. Chen, D., et al. 2003. NIK is a component of the EGF/heregulin receptor signaling complexes. Oncogene 22: 4348-4355.
3. Birbach, A., et al. 2004. Cytosolic, nuclear and nucleolar localization signals determine subcellular distribution and activity of the NFκB inducing kinase NIK. J. Cell Sci. 117: 3615-3624.
4. Basak, S., et al. 2007. A fourth IκB protein within the NFκB signaling module. Cell 128: 369-381.
5. Arthur, J.C., et al. 2007. Heat shock protein 90 associates with monarch-1 and regulates its ability to promote degradation of NFκB-inducing kinase. J. Immunol. 179: 6291-6296.
6. Vallabhapurapu, S., et al. 2008. Nonredundant and complementary functions of TRAF2 and TRAF3 in a ubiquitination cascade that activates NIK-dependent alternative NFκB signaling. Nat. Immunol. 9: 1364-1370.
7. Fan, S., et al. 2009. Role of Src signal transduction pathways in scatter factor-mediated cellular protection. J. Biol. Chem. 97: 7561-7577.
8. Bhattacharyya, S., et al. 2010. B-cell CLL/lymphoma 10 (Bcl10) is required for NFκB production by both canonical and noncanonical pathways and for NFκB-inducing kinase (NIK) phosphorylation. J. Biol. Chem. 285: 522-530.
9. Jin, X., et al. 2010. An atypical E3 ligase zinc finger protein 91 stabilizes and activates NFκB-inducing kinase via Lys63-linked ubiquitination. J. Biol. Chem. 285: 30539-30547.