SANTA CRUZ BIOTECHNOLOGY, INC.

NIK (A-12): sc-8417

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (A-12) is a mouse monoclonal antibody raised against amino acids 700-947 mapping at the C-terminus of NIK of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NIK (A-12) is available conjugated to agarose (sc-8417 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-8417 PE), fluorescein (sc-8417 FITC), Alexa Fluor® 488 (sc-8417 AF488), Alexa Fluor® 546 (sc-8417 AF546), Alexa Fluor® 594 (sc-8417 AF594) or Alexa Fluor® 647 (sc-8417 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8417 AF680) or Alexa Fluor® 790 (sc-8417 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NIK (A-12) 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).

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: Jurkat whole cell lysate: sc-2204.

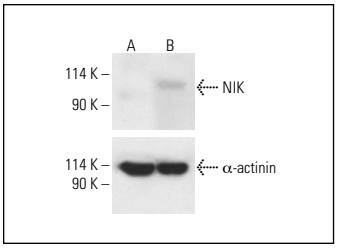
STORAGE

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

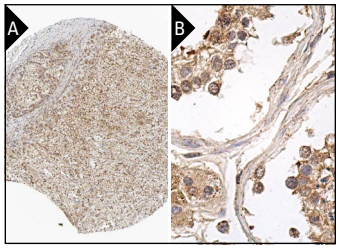
RESEARCH USE

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

DATA



NIK (A-12): sc-8417. Western blot analysis of NIK expression in untreated (**A**) and chemically-treated (**B**) Jurkat whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409. α-actinin (H-2): sc-17829 used as loading control. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



NIK (A-12): sc-8417. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic and membrane staining of cortical cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells (**B**).

SELECT PRODUCT CITATIONS

1. Horie, R., et al. 2002. Cytoplasmic aggregation of TRAF2 and TRAF5 proteins in the Hodgkin-Reed-Sternberg cells. Am. J. Pathol. 160: 1647-1654.
2. Sánchez-Valdepeñas, C., et al. 2010. Nuclear factor-κB inducing kinase is required for graft-versus-host disease. Haematologica 95: 2111-2118.
3. House, C.D., et al. 2018. IKKε cooperates with either MEK or non-canonical NFκB driving growth of triple-negative breast cancer cells in different contexts. BMC Cancer 18: 595.
4. Mazzera, L., et al. 2019. Functional interplay between NIK and c-Abl kinases limits response to Aurora inhibitors in multiple myeloma. Haematologica 104: 2465-2481.
5. Kaaij, M.H., et al. 2020. Anti-IL-17A treatment reduces serum inflammatory, angiogenic and tissue remodeling biomarkers accompanied by less synovial high endothelial venules in peripheral spondyloarthritis. Sci. Rep. 10: 21094.
6. Wang, A., et al. 2021. ZFP91 is required for the maintenance of regulatory T cell homeostasis and function. J. Exp. Med. 218: e20201217.
7. Chen, C.Y., et al. 2022. Serotonin receptor subtype-2B signaling is associated with interleukin-18-induced cardiomyoblast hypertrophy *in vitro*. Asian Biomed. 16: 79-87.
8. Chen, J., et al. 2023. Disruption of IDO signaling pathway alleviates chronic unpredictable mild stress-induced depression-like behaviors and tumor progression in mice with breast cancer. Cytokine 162: 156115.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.