SANTA CRUZ BIOTECHNOLOGY, INC.

TNIK (GA.74): sc-130445

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. TNIK (TRAF2 and NCK-interacting protein kinase) is a 1,360 amino acid protein that contains one protein kinase domain and belongs to a subfamily of Ser/Thr protein kinases. Expressed ubiquitously with highest expression in brain, heart and skeletal muscle, TNIK functions as a stress-activated Ser/Thr kinase that catalyzes the ATP-dependent phosphorylation of target proteins and is thought to play a role in the response to environmental stress. Additionally, via its catalytic activity, TNIK may participate in cytoskeletal regulation events throughout the cell. TNIK exists as 8 isoforms that are produced by alternative splicing events.

REFERENCES

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3. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. IX. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 31-39.
4. Fu, C.A., et al. 1999. TNIK, a novel member of the germinal center kinase family that activates the c-Jun N-terminal kinase pathway and regulates the cytoskeleton. J. Biol. Chem. 274: 30729-30737.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610005. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Brill, L.M., et al. 2004. Robust phosphoproteomic profiling of tyrosine phosphorylation sites from human T cells using immobilized metal affinity chromatography and tandem mass spectrometry. Anal. Chem. 76: 2763-2772.
7. Taira, K., et al. 2004. The TRAF2- and NCK-interacting kinase as a putative effector of Rap2 to regulate actin cytoskeleton. J. Biol. Chem. 279: 49488-49496.
8. Wissing, J., et al. 2007. Proteomics analysis of protein kinases by target class-selective prefractionation and tandem mass spectrometry. Mol. Cell Proteomics 6: 537-547.

CHROMOSOMAL LOCATION

Genetic locus: TNIK (human) mapping to 3q26.2.

SOURCE

TNIK (GA.74) is a mouse monoclonal antibody raised against recombinant TNIK of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TNIK (GA.74) is recommended for detection of TNIK of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for TNIK siRNA (h): sc-78453, TNIK shRNA Plasmid (h): sc-78453-SH and TNIK shRNA (h) Lentiviral Particles: sc-78453-V.

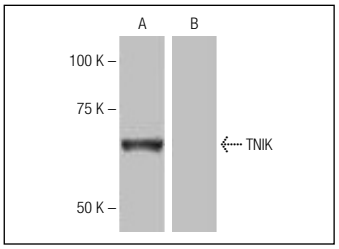
Molecular Weight of TNIK: 150 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295.

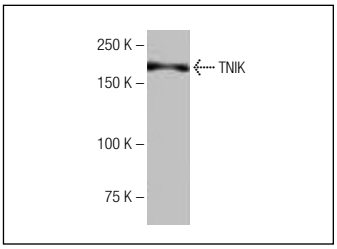
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



TNIK (GA.74): sc-130445. Western blot analysis of TNIK expression in human TNIK transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.



TNIK (GA.74): sc-130445. Western blot analysis of TNIK expression in U-2 OS whole cell lysate.

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.

PROTOCOLS

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