

TNIK (D-16): sc-100205

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 eight isoforms that are produced by alternative splicing events.

REFERENCES

- Hanks, S.K., et al. 1988. The protein kinase family: conserved features and deduced phylogeny of the catalytic domains. *Science* 241: 42-52.
- Hunter, T. 1991. Protein kinase classification. *Methods Enzymol.* 200: 3-37.
- 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.
- 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.
- 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/>
- 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.
- Taira, K., et al. 2004. The TRAF2- and NCK-interacting kinase as a putative effector of Rap 2 to regulate actin cytoskeleton. *J. Biol. Chem.* 279: 49488-49496.
- 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; Tnik (mouse) mapping to 3 A3.

SOURCE

TNIK (D-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of TNIK of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-100205 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TNIK (D-16) is recommended for detection of TNIK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TNIK (D-16) is also recommended for detection of TNIK in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TNIK siRNA (h): sc-78453, TNIK siRNA (m): sc-154540, TNIK shRNA Plasmid (h): sc-78453-SH, TNIK shRNA Plasmid (m): sc-154540-SH, TNIK shRNA (h) Lentiviral Particles: sc-78453-V and TNIK shRNA (m) Lentiviral Particles: sc-154540-V.

Molecular Weight of TNIK: 150 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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



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Satisfaction
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Try **TNIK (C-1): sc-377215** or **TNIK (53): sc-136103**, our highly recommended monoclonal alternatives to TNIK (D-16).