

TNIK (C-1): sc-377215

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.

CHROMOSOMAL LOCATION

Genetic locus: TNIK (human) mapping to 3q26.2; Tnik (mouse) mapping to 3 A3.

SOURCE

TNIK (C-1) is a mouse monoclonal antibody raised against amino acids 844-922 mapping within an internal region of TNIK 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.

TNIK (C-1) is available conjugated to agarose (sc-377215 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377215 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377215 PE), fluorescein (sc-377215 FITC), Alexa Fluor® 488 (sc-377215 AF488), Alexa Fluor® 546 (sc-377215 AF546), Alexa Fluor® 594 (sc-377215 AF594) or Alexa Fluor® 647 (sc-377215 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377215 AF680) or Alexa Fluor® 790 (sc-377215 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TNIK (C-1) is recommended for detection of TNIK of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 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.

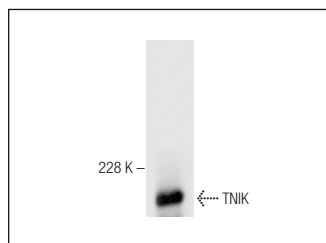
Molecular Weight of TNIK: 150 kDa.

Positive Controls: U-2 OS cell lysate: sc-2295 or SK-MEL-28 cell lysate: sc-2236.

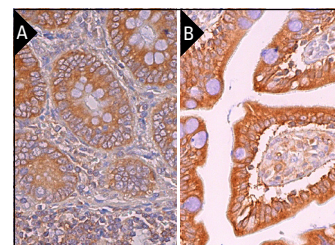
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TNIK (C-1): sc-377215. Western blot analysis of TNIK expression in SK-MEL-28 whole cell lysate.



TNIK (C-1): sc-377215. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix (A) and human small intestine (B) tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Gal, J., et al. 2018. Detergent insoluble proteins and inclusion body-like structures immunoreactive for PRKDC/DNA-PK/DNA-PK_{CS}, FTL, NNT, and AIFM1 in the amygdala of cognitively impaired elderly persons. *J. Neuropathol. Exp. Neurol.* 77: 21-39.
- Takahashi, C., et al. 2020. Effect of TNIK upregulation on JQ1-resistant human colorectal cancer HCT116 cells. *Biochem. Biophys. Res. Commun.* 530: 230-234.
- Koyama, Y., et al. 2023. Role of Mir-452-5p overexpression in epithelial-mesenchymal transition (EMT) in early-stage colorectal cancer. *In Vivo* 37: 1980-1990.
- Zhou, K., et al. 2023. Inhibition of Wnt signaling in colon cancer cells via an oral drug that facilitates TNIK degradation. *Mol. Cancer Ther.* 22: 25-36.

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.

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