

# NCK1 (20B.1H9): sc-20026

## BACKGROUND

The NCK family of SH2/SH3 adaptor proteins consists of two members, NCK1 (NCK $\alpha$ ) and NCK2 (NCK $\beta$ ), which couple tyrosine kinase signaling, including the EGF and PDGF receptor-pathways, to downstream signaling proteins. Specifically, overexpression of NCK1 in NIH/3T3 cells decreases DNA synthesis stimulated by EGF. Furthermore, the SH2 domain of NCK2 inhibits EGF- and PDGF-induced DNA synthesis. The SH3 domain of NCK binds a proline-rich domain on PAK, a known Actin cytoskeleton regulator. The NCK protein thus mediates the interaction between PAK and RAC. The NCK2 protein binds human PDGFR- $\beta$  (Tyr 1009); overexpression of NCK2 inhibits PDGF-induced membrane ruffling and lamellipod formation. Various growth factor receptors, cell surface antigens and adhesion molecules phosphorylate mammalian NCK1 and NCK2. The human NCK1 and NCK2 genes map to chromosomes 3q22.3 and 2q12, respectively.

## REFERENCES

1. Park, D. and Rhee, S.G. 1992. Phosphorylation of NCK in response to a variety of receptors, phorbol myristate acetate, and cyclic AMP. *Mol. Cell. Biol.* 12: 5816-5823.
2. Huebner, K., et al. 1994. Chromosome locations of genes encoding human signal transduction adapter proteins, Nck (NCK), Shc (SHC1), and Grb2 (GRB2). *Genomics* 22: 281-287.
3. Chen, M., et al. 1998. Identification of NCK family genes, chromosomal localization, expression, and signaling specificity. *J. Biol. Chem.* 273: 25171-25178.
4. Chen, M., et al. 2000. NCK $\beta$  adapter regulates Actin polymerization in NIH 3T3 fibroblasts in response to platelet-derived growth factor bb. *Mol. Cell. Biol.* 20: 7867-7880.

## CHROMOSOMAL LOCATION

Genetic locus: NCK1 (human) mapping to 3q22.3; Nck1 (mouse) mapping to 9 E3.3.

## SOURCE

NCK1 (20B.1H9) is a mouse monoclonal antibody raised against recombinant human NCK.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NCK1 (20B.1H9) is available conjugated to agarose (sc-20026 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-20026 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20026 PE), fluorescein (sc-20026 FITC), Alexa Fluor<sup>®</sup> 488 (sc-20026 AF488), Alexa Fluor<sup>®</sup> 546 (sc-20026 AF546), Alexa Fluor<sup>®</sup> 594 (sc-20026 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-20026 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-20026 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-20026 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

NCK1 (20B.1H9) is recommended for detection of NCK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for NCK1 siRNA (h): sc-40967, NCK1 siRNA (m): sc-40968, NCK1 shRNA Plasmid (h): sc-40967-SH, NCK1 shRNA Plasmid (m): sc-40968-SH, NCK1 shRNA (h) Lentiviral Particles: sc-40967-V and NCK1 shRNA (m) Lentiviral Particles: sc-40968-V.

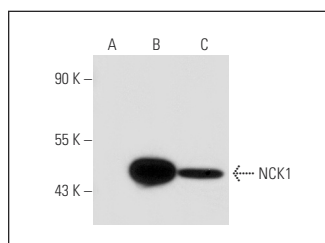
Molecular Weight of NCK1: 47 kDa.

Positive Controls: NCK1 (m): 293T Lysate: sc-121953, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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).

## DATA



NCK1 (20B.1H9): sc-20026. Western blot analysis of NCK1 expression in non-transfected 293T: sc-117752 (A), mouse NCK1 transfected 293T: sc-121953 (B) and A-431 (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Li, C., et al. 2008. The XLP syndrome protein SAP interacts with SH3 proteins to regulate T cell signaling and proliferation. *Cell. Signal.* 21: 111-119.
2. Alfaidi, M., et al. 2020. NCK1, but not NCK2, mediates disturbed flow-induced p21-activated kinase activation and endothelial permeability. *J. Am. Heart Assoc.* 9: e016099.

## 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.