

NCK1 (108): sc-136232

BACKGROUND

The NCK family of SH2/SH3 adaptor proteins consists of two members, NCK1 (NCK α) and NCK2 (NCK β), 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- β (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 2q12.2, 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., Kastury, K., Druck, T., Salcini, A.E., Lanfrancone, L., Pelicci, G., Lowenstein, E., Li, W., Park, S.H., Cannizzaro, L., 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., She, H., Davis, E.M., Spicer, C.M., Kim, L., Ren, R., Le Beau, M.M. and Li, W. 1998. Identification of Nck family genes, chromosomal localization, expression, and signaling specificity. *J. Biol. Chem.* 273: 25171-25178.
4. Chen, M., She, H., Kim, A., Woodley, D.T. and Li, W. 2000. Nck β adapter regulates Actin polymerization in NIH/3T3 fibroblasts in response to platelet-derived growth factor bb. *Mol. Cell. Biol.* 20: 7867-7880.
5. Buday, L., Wunderlich, L. and Tamas, P. 2002. The Nck family of adapter proteins. *Regulators of Actin cytoskeleton. Cell. Signal.* 14: 723-731.

CHROMOSOMAL LOCATION

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

SOURCE

NCK1 (108) is a mouse monoclonal antibody raised against amino acids 279-377 of NCK1 of human origin.

PRODUCT

Each vial contains 50 μ g IgG_{2b} kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136232 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

NCK1 (108) is recommended for detection of NCK1 of mouse, rat, human, bovine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

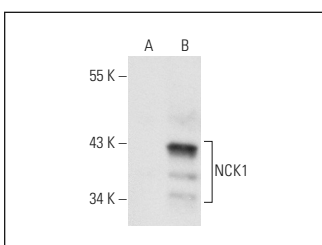
Molecular Weight of NCK1: 47 kDa.

Positive Controls: NCK1 (h3): 293T Lysate: sc-177605, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

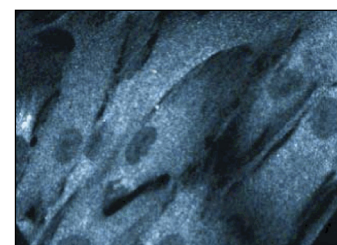
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



NCK1 (108): sc-136232. Western blot analysis of NCK1 expression in non-transfected: sc-117752 (A) and human NCK1 transfected: sc-177605 (B) 293T whole cell lysates.



NCK1 (108): sc-136232. Immunofluorescence staining of HISM cells showing cytoplasmic localization.

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. Not for resale.

PROTOCOLS

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