

NCK1/2 (G-3): sc-365802

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., 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.

CHROMOSOMAL LOCATION

Genetic locus: NCK1 (human) mapping to 3q22.3, NCK2 (human) mapping to 2q12.2; Nck1 (mouse) mapping to 9 E3.3, Nck2 (mouse) mapping to 1 B.

SOURCE

NCK1/2 (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 341-377 near the C-terminus of NCK1 of human origin.

PRODUCT

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

NCK1/2 (G-3) is available conjugated to agarose (sc-365802 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365802 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365802 PE), fluorescein (sc-365802 FITC), Alexa Fluor[®] 488 (sc-365802 AF488), Alexa Fluor[®] 546 (sc-365802 AF546), Alexa Fluor[®] 594 (sc-365802 AF594) or Alexa Fluor[®] 647 (sc-365802 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365802 AF680) or Alexa Fluor[®] 790 (sc-365802 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365802 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

NCK1/2 (G-3) is recommended for detection of NCK1 and NCK2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for NCK1/2 siRNA (h): sc-43959, NCK1/2 shRNA Plasmid (h): sc-43959-SH and NCK1/2 shRNA (h) Lentiviral Particles: sc-43959-V.

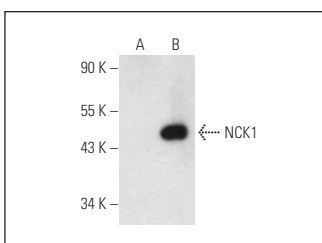
Molecular Weight of NCK1/2: 47 kDa.

Positive Controls: NCK1 (m): 293T Lysate: sc-121953, A-431 whole cell lysate: sc-2201 or U-937 cell lysate: sc-2239.

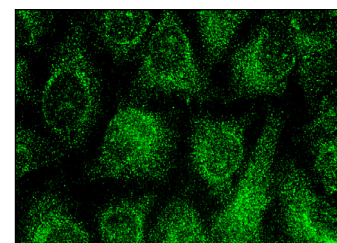
RECOMMENDED SUPPORT REAGENTS

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



NCK1/2 (G-3): sc-365802. Western blot analysis of NCK1 expression in non-transfected: sc-117752 (A) and mouse NCK1 transfected: sc-121953 (B) 293T whole cell lysates.



NCK1/2 (G-3): sc-365802. Immunofluorescence staining of methanol-fixed HeLa 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.

PROTOCOLS

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