SANTA CRUZ BIOTECHNOLOGY, INC.

N-Shc (23): sc-135996

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Src homology (SH2) domains are noncatalytic sequences that are conserved among a number of cytoplasmic signaling proteins. These signaling proteins are directly regulated by receptor tyrosine kinases and control the activation of mitogenic signal transduction pathways by such receptors. For instance, ligand-induced activation of the EGF and PDGF receptors induces dimerization, triggers receptor autophosphorylation on tyrosine residues and results in the binding of a number of cytoplasmic SH2 domain proteins such as PLC γ1, Ras GAP and PI 3-kinase to the activated receptors. Another gene, Shc, encodes two proteins with a single SH2 domain. A Shc-related gene N-Shc (for neuronal Shc), encodes a protein that contains two phosphotyrosine domains (PTB), a single SH2 domain and is expressed exclusively in the brain. Neither Shc nor N-Shc have any identifiable catalytic activity, suggesting them to be members of an expanding class of proteins that function to couple activated growth factor receptors to downstream signaling intermediates.

REFERENCES

1. Ullrich, A. and Schlessinger, J. 1990. Signal transduction by receptors with tyrosine kinase activity. Cell 61: 203-212.
2. Morrison, D.K., et al. 1990. Platelet-derived growth factor (PDGF)-dependent association of phospholypase C-γ with the PDGF receptor signaling complex. Mol. Cell. Biol. 10: 2359-2366.
3. Cantley, L.C., et al. 1991. Oncogenes and signal transduction. Cell 64: 281-302.
4. Koch, C.A., et al. 1991. SH2 and SH3 domains: elements that control interactions of cytoplasmic signaling proteins. Science 252: 669-674.
5. Mc Glade, J., et al. 1992. Shc proteins are phosphorylated and regulated by the v-Src and v-Fps protein-tyrosine kinases. Proc. Natl. Acad. Sci. USA 89: 8869-8873.
6. Pelicci, G., et al. 1992. A novel transforming protein (SHC) with an SH2 domain is implicated in mitogenic signal transduction. Cell 70: 93-104.
7. Ravichandran, K.S., et al. 1993. Interaction of Shc with the ζ chain of the T cell receptor upon T cell activation. Science 262: 902-905.
8. Nakamura, T., et al. 1996. N-Shc: a neural-specific adapter molecule that mediates signaling from neurotrophin/Trk to Ras/MAPK pathway. Oncogene 13: 1111-1121.

CHROMOSOMAL LOCATION

Genetic locus: SHC3 (human) mapping to 9q22.1; Shc3 (mouse) mapping to 13 A5.

SOURCE

N-Shc (23) is a mouse monoclonal antibody raised against amino acids 239-374 of N-Shc of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

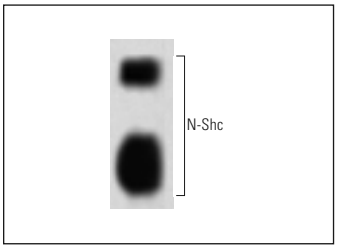
N-Shc (23) is recommended for detection of N-Shc of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for N-Shc siRNA (h): sc-40975, N-Shc siRNA (m): sc-40976, N-Shc shRNA Plasmid (h): sc-40975-SH, N-Shc shRNA Plasmid (m): sc-40976-SH, N-Shc shRNA (h) Lentiviral Particles: sc-40975-V and N-Shc shRNA (m) Lentiviral Particles: sc-40976-V.

Molecular Weight of N-Shc: 66 kDa.

Positive Controls: rat brain extract: sc-2392, SH-SY5Y cell lysate: sc-3812 or SK-N-SH nuclear extract.

DATA



N-Shc (23): sc-135996. Western blot analysis of N-Shc expression in rat cerebrum tissue extract.

N-Shc Antibody (23): sc-135996. Immunofluorescence staining of PFSK-1 cells showing cytoplasmic localization.

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.