

N-Shc (H-7): sc-365598

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 γ 1, 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

- Ullrich, A. and Schlessinger, J. 1990. Signal transduction by receptors with tyrosine kinase activity. *Cell* 61: 203-212.
- Morrison, D.K., et al. 1990. Platelet-derived growth factor (PDGF)-dependent association of phospholipase C- γ with the PDGF receptor signaling complex. *Mol. Cell. Biol.* 10: 2359-2366.
- Cantley, L.C., et al. 1991. Oncogenes and signal transduction. *Cell* 64: 281-302.
- Koch, C.A., et al. 1991. SH2 and SH3 domains: elements that control interactions of cytoplasmic signaling proteins. *Science* 252: 669-674.
- McGlade, 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.

CHROMOSOMAL LOCATION

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

SOURCE

N-Shc (H-7) is a mouse monoclonal antibody raised against amino acids 191-330 mapping within an internal region of N-Shc of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

N-Shc (H-7) is available conjugated to agarose (sc-365598 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365598 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365598 PE), fluorescein (sc-365598 FITC), Alexa Fluor[®] 488 (sc-365598 AF488), Alexa Fluor[®] 546 (sc-365598 AF546), Alexa Fluor[®] 594 (sc-365598 AF594) or Alexa Fluor[®] 647 (sc-365598 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365598 AF680) or Alexa Fluor[®] 790 (sc-365598 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

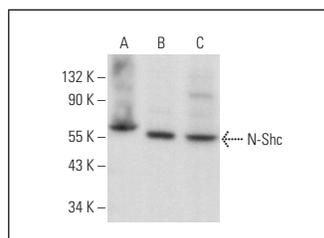
N-Shc (H-7) is recommended for detection of N-Shc p52 and p64 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 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.

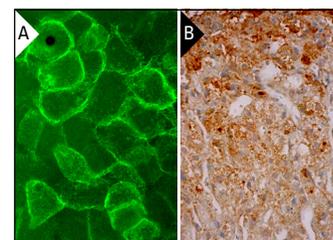
Molecular Weight of N-Shc: 66 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, EOC 20 whole cell lysate: sc-364187 or C6 whole cell lysate: sc-364373.

DATA



N-Shc (H-7): sc-365598. Western blot analysis of N-Shc expression in SH-SY5Y (A), EOC 20 (B) and C6 (C) whole cell lysates.



N-Shc (H-7): sc-365598. Immunofluorescence staining of formalin-fixed A-431 cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Meade, G.M., et al. 2020. A model of negative emotional contagion between male-female rat dyads: effects of voluntary exercise on stress-induced behavior and BDNF-TrkB signaling. *Physiol. Behav.* 234: 113286.
- Liu, Y., et al. 2021. Shc3 promotes hepatocellular carcinoma stemness and drug resistance by interacting with β -catenin to inhibit its ubiquitin degradation pathway. *Cell Death Dis.* 12: 278.

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.

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