SANTA CRUZ BIOTECHNOLOGY, INC.

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

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. 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 µg IgG_1 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 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365598 HRP), 200 µg/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 µg/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 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

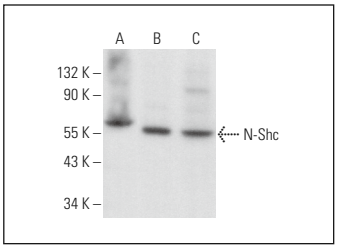
N-Shc (H-7) is recommended for detection of N-Shc p52 and p64 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution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

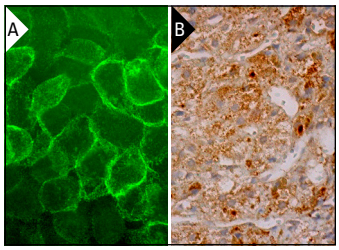
Molecular Weight of N-Shc: 66 kDa.

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

1. 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.
2. 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.