SANTA CRUZ BIOTECHNOLOGY, INC.

Shc (B-9): sc-393717

BACKGROUND

Growth factor triggering of protein tyrosine kinase receptors induces signals that cascade to the nucleus activating mitogenic, as well as other, responses. Critical components of this process include adapter proteins such as Shc and IRS-1 that lack detectable catalytic activity. These are immediate substrates of receptor tyrosine kinase activity and serve to physically link activated receptors to downstream signaling components. Whereas Shc has been implicated in signaling by diverse receptor families, IRS-1 serves primarily as the major Insulin receptor substrate. Shc also participates in Insulin signaling by linking the Insulin receptor to Ras by forming complexes with the adapter protein GRB2 and Sos independently of IRS-1. A protein immunologically related to IRS-1, originally designated 4PS and now known as IRS-2, was shown to become highly tyrosine phosphorylated in response to IL-4 or IGF-1 in cells lacking IRS-1. An additional member of this family of signaling intermediates, Shb, is a SH2-containing protein with characteristic proline-rich domains.

REFERENCES

1. Ullrich, A. and Schlessinger, J. 1990. Signal transduction by receptors with tyrosine kinase activity. Cell 61: 203-212.
2. Ellis, C., et al. 1990. Phosphorylation of GAP and GAP-associated proteins by transforming and mitogenic tyrosine kinases. Nature 343: 377-381.
3. 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.
4. Cantley, L.C., et al. 1991. Oncogenes and signal transduction. Cell 64: 281-302.

CHROMOSOMAL LOCATION

Genetic locus: SHC1 (human) mapping to 1q21.3, SHC3 (human) mapping to 9q22.1; Shc1 (mouse) mapping to 3 F1, Shc3 (mouse) mapping to 13 A5.

SOURCE

Shc (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 554-585 at the C-terminus of Shc of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-393717 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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.

APPLICATIONS

Shc (B-9) is recommended for detection of Shc p66, p52 and p46, and N-Shc p64 and p52 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Shc (B-9) is also recommended for detection of Shc p66, p52 and p46, and N-Shc p64 and p52 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of Shc p66 amino acids 1-583: 66 kDa.

Molecular Weight of Shc p52 amino acids 111-583: 52 kDa.

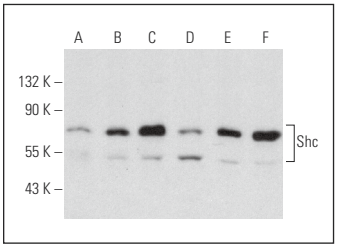
Molecular Weight of Shc p46 amino acids 156-583: 46 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, SK-BR-3 cell lysate: sc-2218 or SK-BR-3 nuclear extract: sc-2134.

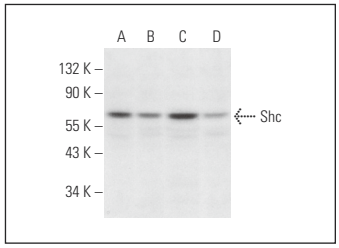
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



Shc (B-9): sc-393717. Western blot analysis of Shc expression in A549 (**A**), SHP-77 (**B**), NIH/3T3 (**C**), C3H/10T1/2 (**D**), NRK (**E**) and A-10 (**F**) whole cell lysates.



Shc (B-9): sc-393717. Western blot analysis of Shc expression in SK-N-SH (**A**), SK-BR-3 (**B**) and H4 (**C**) whole cell lysates and SK-BR-3 nuclear extract (**D**).

SELECT PRODUCT CITATIONS

1. Russo, L., et al. 2018. Liver-specific rescuing of CEACAM1 reverses endothelial and cardiovascular abnormalities in male mice with null deletion of CEACAM1 gene. Mol. Metab. 9: 98-113.

CONJUGATES

See **Shc (PG-797): sc-967** for Shc antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.