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# Shc (m): 293T Lysate: sc-123541

## BACKGROUND

Growth factor triggering of protein tyrosine kinase receptors induces signals that cascade to the nucleus activating mitogenic and 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. Ellis, C., Moran, M., McCormick, F. and Pawson, T. 1990. Phosphorylation of GAP and GAP-associated proteins by transforming and mitogenic tyrosine kinases. *Nature* 343: 377-381.
2. Morrison, D.K., Kaplan, D.R., Rhee, S.G. and Williams, L.T. 1990. Platelet-derived growth factor (PDGF)-dependent association of phospholipase C- $\gamma$  with the PDGF receptor signaling complex. *Mol. Cell. Biol.* 10: 2359-2366.
3. Ullrich, A. and Schlessinger, J. 1990. Signal transduction by receptors with tyrosine kinase activity. *Cell* 61: 203-212.
4. Cantley, L.C., Auger, K.R., Carpenter, C., Duckworth, B., Graziani, A., Kapeller, R. and Soltoff, S. 1991. Oncogenes and signal transduction. *Cell* 64: 281-302.
5. Koch, C.A., Anderson, D., Moran, M.F., Ellis, C. and Pawson, T. 1991. SH2 and SH3 domains: elements that control interactions of cytoplasmic signaling proteins. *Science* 252: 669-674.
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7. Pelicci, G., Langrancone, L., Grignani, F., McGlade, J., Cavallo, F., Forni, G., Nicoletti, I., Grignani, F., Pawson, T. and Pelicci, P.G. 1992. A novel transforming protein (SHC) with an SH2 domain is implicated in mitogenic signal transduction. *Cell* 70: 93-104.
8. Ravichandran, K.S., Lee, K.K., Sonyang, Z., Cantley, L.C., Burn, P. and Burakoff, S.J. 1993. Interaction of Shc with the  $\zeta$  chain of the T cell receptor upon T cell activation. *Science* 262: 902-905.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: Shc1 (mouse) mapping to 3 F1.

## PRODUCT

Shc (m): 293T Lysate represents a lysate of mouse Shc transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

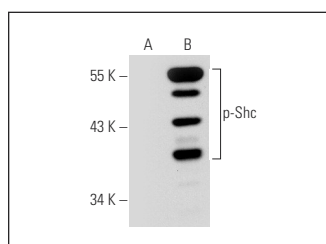
## APPLICATIONS

Shc (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Shc antibodies. Recommended use: 10-20  $\mu$ l per lane.

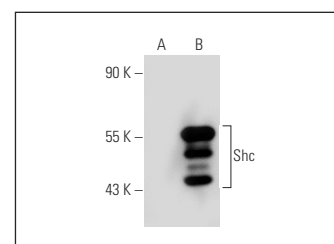
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

p-Shc (15E11): sc-81518. is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Shc expression in Shc transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## DATA



p-Shc (15E11): sc-81518. Western blot analysis of Shc phosphorylation in non-transfected: sc-117752 (A) and mouse Shc transfected: sc-123541 (B) 293T whole cell lysates.



Shc (PG-797): sc-967. Western blot analysis of Shc expression in non-transfected: sc-117752 (A) and mouse Shc transfected: sc-123541 (B) 293T whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.