SANTA CRUZ BIOTECHNOLOGY, INC.

Shc (C-20): sc-288

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

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 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Shc of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-288 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Shc (C-20) 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 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Shc (C-20) is also recommended for detection of Shc p66, p52, 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-BR-3 cell lysate: sc-2218, MCF7 whole cell lysate: sc-2206 or Shc (m): 293T Lysate: sc-123541.

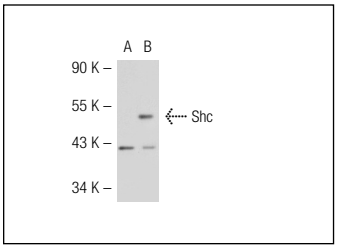
RESEARCH USE

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

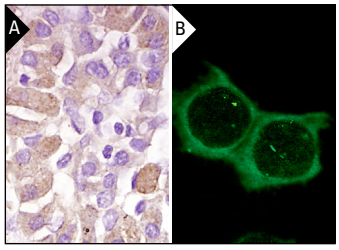
STORAGE

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

DATA



Shc (C-20): sc-288. Western blot analysis of Shc expression in non-transfected: sc-117752 (**A**) and mouse Shc transfected: sc-123541 (**B**) 293T whole cell lysates.



Shc (C-20): sc-288. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human pancreas tumor (**A**). Immunofluorescence staining of methanol-fixed MCF7 cells showing cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Owen-Lynch, P.J., et al. 1995. v-Abl-mediated apoptotic suppression is associated with Shc phosphorylation without concomitant mitogen-activated protein kinase activation. J. Biol. Chem. 270: 5956-5962.
2. Wu, K., et al. 2002. Flavopiridol and trastuzumab synergistically inhibit proliferation of breast cancer cells: association with selective cooperative inhibition of cyclin D1-dependent kinase and Akt signaling pathways. Mol. Cancer Ther. 1: 695-706.
3. Zecchin, H.G., et al. 2003. Insulin signalling pathways in aorta and muscle from two animal models of Insulin resistance—the obese middle-aged and the spontaneously hypertensive rats. Diabetologia 46: 479-491.
4. Zuco, V., et al. 2004. Induction of apoptosis and stress response in ovarian carcinoma cell lines treated with ST1926, an atypical retinoid. Cell Death Differ. 11: 280-289.
5. Bento, L.M., et al. 2005. Effects of NH_4Cl intake on renal growth in rats: role of MAPK signalling pathway. Nephrol. Dial. Transplant. 20: 2654-2660.
6. Watt, H.L., et al. 2009. Somatostatin receptors 1 and 5 heterodimerize with epidermal growth factor receptor: agonist-dependent modulation of the downstream MAPK signalling pathway in breast cancer cells. Cell. Signal. 21: 428-439.
7. Licciulli, S., et al. 2010. Pirin delocalization in melanoma progression identified by high content immuno-detection based approaches. BMC Cell Biol. 11: 5.