SANTA CRUZ BIOTECHNOLOGY, INC.

Shc (PG-797): sc-967

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.

REFERENCE

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.

CHROMOSOMAL LOCATION

Genetic locus: SHC1 (human) mapping to 1q21.3; Shc1 (mouse) mapping to 3 F1.

SOURCE

Shc (PG-797) is a mouse monoclonal antibody raised against amino acids 476-583 of 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.

Shc (PG-797) is available conjugated to agarose (sc-967 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-967 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-967 PE), fluorescein (sc-967 FITC), Alexa Fluor® 488 (sc-967 AF488), Alexa Fluor® 546 (sc-967 AF546), Alexa Fluor® 594 (sc-967 AF594) or Alexa Fluor® 647 (sc-967 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-967 AF680) or Alexa Fluor® 790 (sc-967 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Shc (PG-797) is recommended for detection of Shc p66, p52 and p46 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for Shc siRNA (h): sc-29480, Shc siRNA (m): sc-29481, Shc shRNA Plasmid (h): sc-29480-SH, Shc shRNA Plasmid (m): sc-29481-SH, Shc shRNA (h) Lentiviral Particles: sc-29480-V and Shc shRNA (m) Lentiviral Particles: sc-29481-V.

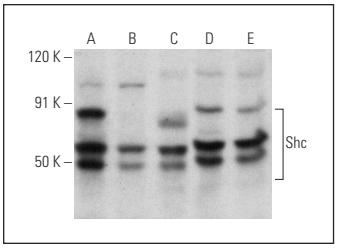
Molecular Weight of Shc p66 (amino acids 1-583): 66 kDa.

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

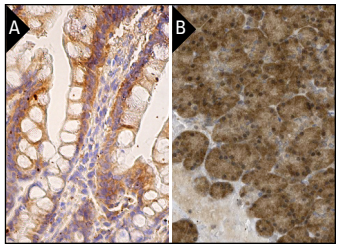
Molecular Weight of Shc p46 (amino acids 156-583): 46 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, A549 cell lysate: sc-2413 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Shc (PG-797): sc-967. Western blot analysis of Shc expression in A549 (**A**), HEK293 (**B**), NIH/3T3 (**C**), NRK (**D**) and A-10 (**E**) whole cell lysates.



Shc (PG-797): sc-967. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and nuclear staining of exocrine glandular cells and islet cells magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Wary, K.K., et al. 1998. A requirement for caveolin-1 and associated kinase Fyn in integrin signaling and anchorage-dependent cell growth. Cell 94: 625-634.
2. Stucky, A., et al. 2016. Prenatal cocaine exposure upregulates BDNF-TrkB signaling. PLoS ONE 11: e0160585.
3. Kim, I.H. and Nam, T.J. 2018. Fucoidan downregulates Insulin-like growth factor-I receptor levels in HT-29 human colon cancer cells. Oncol. Rep. 39: 1516-1522.

RESEARCH USE

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