SANTA CRUZ BIOTECHNOLOGY, INC.

Shb/Shf (H-130): sc-28832

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The Power to Question

BACKGROUND

The SH2 (Src Homology 2) domain is a structurally conserved motif that contains two α helices and seven beta strands and is found in a variety of proteins that are involved in signal transduction throughout the cell. Specifically, the SH2 domain targets SH2 domain-containing proteins to tyrosine-phosphorylated sites, an event that can trigger a protein-protein interaction cascade which may ultimately effect gene expression and cellular function. Shb (SH2 domain-containing adapter protein b), Shd (SH2 domain-containing adapter protein d), She (SH2 domain-containing adapter protein e) and Shf (SH2 domain-containing adapter protein f) are SH2 domain-containing proteins that play various roles throughout the cell. Shb is a widely expressed protein that localizes to both the cell membrane and the cytoplasm and plays an important role in signal transduction, mainly by linking activated proteins to downstream signaling targets, thereby propagating a signal cascade. Unlike Shb, Shd and Shf are thought to function as adaptor proteins, the former of which may be involved in apoptotic regulation.

REFERENCES

1. 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.
2. Pelicci, G., et al. 1992. A novel transforming protein (SHC) with an SH2 domain is implicated in mitogenic signal transduction. Cell 70: 93-104.
3. Lee, C.-H., et al. 1993. Nck associates with the SH2 domain-docking protein IRS-1 in Insulin-stimulated cells. Proc. Natl. Acad. Sci. USA 90: 11713-11717.
4. Ravichandran, K.S., et al. 1993. Interaction of Shc with the zeta chain of the T cell receptor upon T cell activation. Science 262: 902-905.
5. Myers, M.G., et al. 1994. Role of IRS-1-GRB-2 complexes in Insulin signaling. Mol. Cell. Biol. 14: 3577-3587.
6. Tamemoto, H., et al. 1994. Insulin resistance and growth retardation in mice lacking Insulin receptor substrate-1. Nature 372: 182-186.
7. Araki, E., et al. 1994. Alternative pathway of Insulin signalling in mice with targeted disruption of the IRS-1 gene. Nature 372: 186-190.
8. Welsh, M., et al. 1994. Shb is a ubiquitously expressed Src homology 2 protein. Oncogene 9: 19-27.

SOURCE

Shb/Shf (H-130) is a rabbit polyclonal antibody raised against amino acids 467-596 mapping at the C-terminus of Shb 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.

STORAGE

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

APPLICATIONS

Shb/Shf (H-130) is recommended for detection of Shb, Shf, and to a lesser extent, Shd and She 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Shb/Shf (H-130) is also recommended for detection of Shb, Shf, and to a lesser extent, Shd and She in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Shb: 56 kDa.

Molecular Weight of Shf: 53 kDa.

Positive Control: K-562 whole cell lysate: sc-2203 or KNRK whole cell lysate: sc-2214.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.