

SH2-B $\alpha/\beta/\gamma/\delta$ (C-11): sc-514142

BACKGROUND

SH2-B, also known as SH2B1 or PSM, is a 756 amino acid protein that is a component of the signaling network and is involved in the regulation of cell shape and movement. SH2-B is related to the APS (adapter molecule containing PH and SH2 domains) family of adapter proteins, which characteristically contain a pleckstrin homology (PH) domain, an SH2 domain and a tyrosine phosphorylation site. SH2-B is alternatively spliced to generate three distinct isoforms, SH2-B α , β , and γ , that share an identical N-terminal sequence, including the PH domain, the SH2 domain, and multiple proline-rich motifs. Containing a PH domain and a SH2 domain, SH2-B shuttles between the nucleus and the cytoplasm. SH2-B is widely expressed with highest expression in skeletal muscle and ovary. SH2-B is phosphorylated on tyrosine residues in response to receptor kinase stimulation.

REFERENCES

1. Frank, S.J., et al. 1995. Regions of the JAK2 tyrosine kinase required for coupling to the growth hormone receptor. *J. Biol. Chem.* 270: 14776-14785.
2. Rui, L., et al. 1997. Identification of SH2-B β as a substrate of the tyrosine kinase JAK2 involved in growth hormone signaling. *Mol. Cell. Biol.* 17: 6633-6644.
3. Rui, L., et al. 1998. Platelet-derived growth factor (PDGF) stimulates the association of SH2-B β with PDGF receptor and phosphorylation of SH2-B β . *J. Biol. Chem.* 273: 21239-21245.
4. Rui, L., et al. 1999. Identification of SH2-B β as a potent cytoplasmic activator of the tyrosine kinase Janus kinase 2. *Proc. Natl. Acad. Sci. USA* 96: 7172-7177.
5. Rui, L., et al. 1999. SH2-B is required for nerve growth factor-induced neuronal differentiation. *J. Biol. Chem.* 274: 10590-10594.
6. Rui, L., et al. 1999. SH2-B, a membrane-associated adapter, is phosphorylated on multiple serines/threonines in response to nerve growth factor by kinases within the MEK/ERK cascade. *J. Biol. Chem.* 274: 26485-26492.

CHROMOSOMAL LOCATION

Genetic locus: SH2B1 (human) mapping to 16p11.2; Sh2b1 (mouse) mapping to 7 F3.

SOURCE

SH2-B $\alpha/\beta/\gamma/\delta$ (C-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-24 at the N-terminus of SH2-B β of rat origin.

PRODUCT

Each vial contains 200 μ g IgG₁ 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-514142 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

SH2-B $\alpha/\beta/\gamma/\delta$ (C-11) is recommended for detection of SH2-B α , SH2-B β , SH2-B γ and SH2-B δ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for SH2-B siRNA (h): sc-44095, SH2-B siRNA (m): sc-40333, SH2-B shRNA Plasmid (h): sc-44095-SH, SH2-B shRNA Plasmid (m): sc-40333-SH, SH2-B shRNA (h) Lentiviral Particles: sc-44095-V and SH2-B shRNA (m) Lentiviral Particles: sc-40333-V.

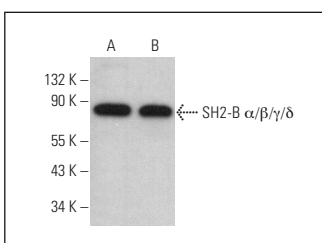
Molecular Weight of SH2-B $\alpha/\beta/\gamma/\delta$ isoforms: 70-95 kDa.

Positive Controls: Sol8 cell lysate: sc-2249 or SJRH30 cell lysate: sc-2287.

RECOMMENDED SUPPORT REAGENTS

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



SH2-B $\alpha/\beta/\gamma/\delta$ (C-11): sc-514142. Western blot analysis of SH2-B $\alpha/\beta/\gamma/\delta$ expression in SJRH30 (A) and Sol8 (B) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.

STORAGE

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

PROTOCOLS

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