

# 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  $\alpha$ ,  $\beta$ , and  $\gamma$ , 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

- 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.
- Rui, L., et al. 1997. Identification of SH2-B  $\beta$  as a substrate of the tyrosine kinase JAK2 involved in growth hormone signaling. *Mol. Cell. Biol.* 17: 6633-6644.
- Rui, L., et al. 1998. Platelet-derived growth factor (PDGF) stimulates the association of SH2-B  $\beta$  with PDGF receptor and phosphorylation of SH2-B  $\beta$ . *J. Biol. Chem.* 273: 21239-21245.
- Rui, L., et al. 1999. Identification of SH2-B  $\beta$  as a potent cytoplasmic activator of the tyrosine kinase Janus kinase 2. *Proc. Natl. Acad. Sci. USA* 96: 7172-7177.
- Rui, L., et al. 1999. SH2-B is required for nerve growth factor-induced neuronal differentiation. *J. Biol. Chem.* 274: 10590-10594.
- 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  $\beta$  of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> 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  $\mu$ 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  $\alpha$ , SH2-B  $\beta$ , SH2-B  $\gamma$  and SH2-B  $\delta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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.

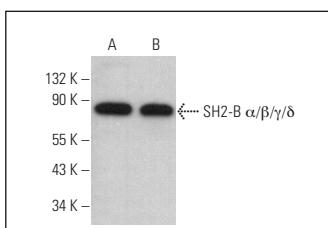
Positive Controls: Sol8 cell lysate: sc-2249 or SJRH30 cell lysate: sc-2287.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG<sub>x</sub> BP-HRP: sc-516102 or m-IgG<sub>x</sub> 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<sub>x</sub> BP-FITC: sc-516140 or m-IgG<sub>x</sub> 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<sub>x</sub> 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](http://www.scbt.com) for detailed protocols and support products.