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# SH2-B (m): 293T Lysate: sc-127534

## BACKGROUND

SH2-B is a component of the signaling network 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. The isoform SH2-B  $\beta$  contributes to the regulation of the Actin cytoskeleton as it associates with various tyrosine kinases in response to growth factor stimulation. Following PDGF stimulation, SH2-B  $\beta$  can directly interact with the PDGF receptor (PDGFR) where it is phosphorylated on tyrosine residues and functions as a signaling protein for the PDGFR pathway. In addition, SH2-B  $\beta$  is also a substrate for JAK2 and, thereby, mediates the cytoskeletal reorganization that is induced by the signaling pathways of various growth factors.

## REFERENCES

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3. Rui, L. and Carter-Su, C. 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.
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6. Rui, L., Herrington, J. and Carter-Su, C. 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.
7. Ahmed, Z., Smith, B.J., Kotani, K., Wilden, P. and Pillay, T.S. 1999. APS, an adapter protein with a PH and SH2 domain, is a substrate for the Insulin receptor kinase. *Biochem. J.* 341: 665-668.
8. Rui, L., Gunter, D.R., Herrington, J. and Carter-Su, C. 2000. Differential binding to and regulation of JAK2 by the SH2 domain and N-terminal region of SH2-B  $\beta$ . *Mol. Cell. Biol.* 20: 3168-3177.

## CHROMOSOMAL LOCATION

Genetic locus: Sh2b1 (mouse) mapping to 7 F3.

## RESEARCH USE

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

## PRODUCT

SH2-B (m): 293T Lysate represents a lysate of mouse SH2-B transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

SH2-B (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive SH2-B antibodies. Recommended use: 10-20  $\mu$ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.