Technical Data Sheet

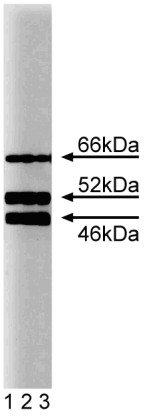
Purified Mouse Anti-SHC

Product Information

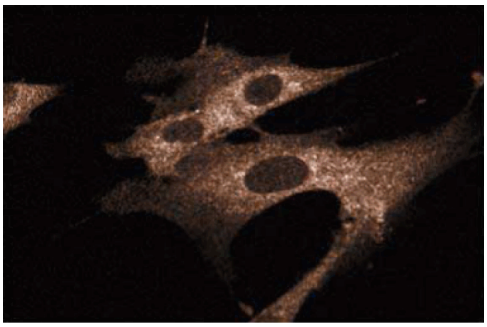
Material Number:	**610878**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	30/SHC
Immunogen:	Human SHC aa. 359-473
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat, Dog, Chicken
Target MW:	66, 52 & 46 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

The mammalian SHC proteins, which are expressed as multiple isoforms (46, 52, and 66 kDa), each contain a C-terminal SH2 domain and an N-terminal glycine/proline rich sequence. These proteins function as early signaling intermediates (also called adaptor proteins) which relay G protein coupled receptor (GPCR) and receptor tyrosine kinase (RTK)-induced signals via the Ras transduction pathway. To this end, the SHC proteins contain specific tyrosine residues which are phosphorylated following association with the active RTKs. Phosphorylated SHC forms a complex with the adaptor protein GRB2. Association of the SHC-GRB2 complex with the Ras guanine nucleotide exchange factor (Ras-GEF) mediates the localization of Ras-GEF to the plasma membrane. Once at the plasma membrane, Ras-GEF activates Ras by catalyzing the Ras-GTP for Ras-GDP exchange. Over-expression of SHC results in cell transformation, and phosphorylation of SHC correlates with activation of the ERK1/ERK2 kinases. The SHC proteins are mediators of signals that are essential for cell metabolism, growth, and differentiation.



Western blot analysis of SHC on a HeLa cell lysate (Human cervical epitheloid carcinoma; ATCC CCL-2.2). *Lane 1: 1:1000, lane 2: 1:2000, lane 3: 1:4000 dilution of the Mouse Anti-SHC antibody.*



Immunofluorescence staining of WI-38 cells (Human lung fibroblasts; ATCC CCL-75).

Preparation and Storage

Store undiluted at -20°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharmingen/protocols/Western_Blotting.shtml

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611449	HeLa Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Imokawa G, Kobayasi T, Miyagishi M. Intracellular signaling mechanisms leading to synergistic effects of endothelin-1 and stem cell factor on proliferation of cultured human melanocytes. Cross-talk via trans-activation of the tyrosine kinase c-kit receptor. *J Biol Chem.* 2000; 275(43):33321-33328. (Biology: Immunoprecipitation, Western blot)

Kiely PA, Sant A, O'Connor R. RACK1 is an insulin-like growth factor 1 (IGF-1) receptor-interacting protein that can regulate IGF-1-mediated Akt activation and protection from cell death. *J Biol Chem.* 2002; 277(25):22581-22589. (Biology: Immunoprecipitation, Western blot)

Laser M, Willey CD, Jiang W. Integrin activation and focal complex formation in cardiac hypertrophy. *J Cell Biol.* 2000; 275(45):35624-35630. (Biology: Western blot)

Pelicci G, Lanfrancone L, Grignani F. A novel transforming protein (SHC) with an SH2 domain is implicated in mitogenic signal transduction. *Cell.* 1992; 70(1):93-104. (Biology)

Ugi S, Imamura T, Ricketts W, Olefsky JM. Protein phosphatase 2A forms a molecular complex with Shc and regulates Shc tyrosine phosphorylation and downstream mitogenic signaling. *Mol Cell Biol.* 2002; 22(7):2375-2387. (Biology: Immunoprecipitation, Western blot)

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