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SHC1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1959a

Product Information

Application	WB, FC, ICC, E
Primary Accession	P29353
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Clone Names	2F7C7
Isotype	IgG1
Calculated MW	62822
Description	This gene encodes three main isoforms that differ in activities and subcellular location. While all three are adapter proteins in signal transduction pathways, the longest (p66Shc) may be involved in regulating life span and the effects of reactive oxygen species. The other two isoforms, p52Shc and p46Shc, link activated receptor tyrosine kinases to the Ras pathway by recruitment of the GRB2/SOS complex. p66Shc is not involved in Ras activation. Unlike the other two isoforms, p46Shc is targeted to the mitochondrial matrix. Several transcript variants encoding different isoforms have been found for this gene.
Immunogen	Purified recombinant fragment of human SHC1 (AA: 385-495) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

Additional Information

Gene ID	6464
Other Names	SHC-transforming protein 1, SHC-transforming protein 3, SHC-transforming protein A, Src homology 2 domain-containing-transforming protein C1, SH2 domain protein C1, SHC1, SHC, SHCA
Dilution	WB~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SHC1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SHC1 (HGNC:10840)
Synonyms	SHC, SHCA
Function	Signaling adapter that couples activated growth factor receptors to signaling pathways. Participates in a signaling cascade initiated by activated KIT and KITLG/SCF. Isoform p46Shc and isoform p52Shc, once phosphorylated, couple activated receptor tyrosine kinases to Ras via the recruitment of the GRB2/SOS complex and are implicated in the cytoplasmic propagation of mitogenic signals. Isoform p46Shc and isoform p52Shc may thus function as initiators of the Ras signaling cascade in various non-neuronal systems. Isoform p66Shc does not mediate Ras activation, but is involved in signal transduction pathways that regulate the cellular response to oxidative stress and life span. Isoform p66Shc acts as a downstream target of the tumor suppressor p53 and is indispensable for the ability of stress-activated p53 to induce elevation of intracellular oxidants, cytochrome c release and apoptosis. The expression of isoform p66Shc has been correlated with life span (By similarity). Participates in signaling downstream of the angiopoietin receptor TEK/TIE2, and plays a role in the regulation of endothelial cell migration and sprouting angiogenesis. Involved in the oncostatin-M-mediated signaling pathway through type II OSM receptor complex (heterodimers composed of OSMR and IL6ST) where it contributes to activation of the Ras/Raf/MAPK pathway through JAK1-dependent recruitment to OSMR subunit of OSMR complex and SHC1 association with GRB2 (PubMed:11016927).
Cellular Location	Cytoplasm. Cell junction, focal adhesion [Isoform p66Shc]: Mitochondrion. Note=In case of oxidative conditions, phosphorylation at 'Ser-36' of isoform p66Shc, leads to mitochondrial accumulation.
Tissue Location	Widely expressed. Expressed in neural stem cells but absent in mature neurons

Background

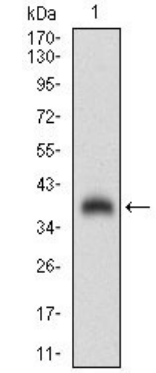
Dynactin 4 could have a dual role in dynein targeting and in ACTR1A/Arp1 subunit of dynactin pointed-end capping. Could be involved in ACTR1A pointed-end binding and in additional roles in linking dynein and dynactin to the cortical cytoskeleton.The dynactin complex binds cargo, such as vesicles and organelles, to cytoplasmic dynein for retrograde microtubule-mediated trafficking and could feasibly be involved in the copper-regulated trafficking of ATP7B. ; ;

References

1. Am J Physiol Heart Circ Physiol. 2012 Feb 1;302(3):H724-32. 2. Clin Cardiol. 2010 Sep;33(9):548-52.

Images

Figure 1: Western blot analysis using SHC1 mAb against human SHC1 (AA: 385-495) recombinant protein. (Expected MW is 37.3 kDa)



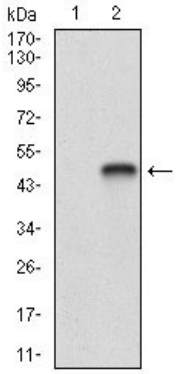


Figure 2: Western blot analysis using SHC1 mAb against HEK293 (1) and SHC1 (AA: 385-495)-hIgGFc transfected HEK293 (2) cell lysate.

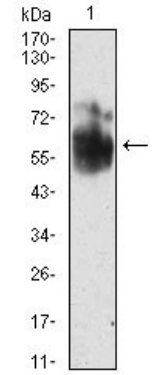


Figure 3: Western blot analysis using SHC1 mouse mAb against NIH/3T3 cell lysate.

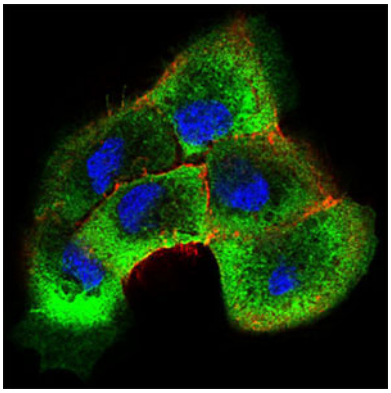


Figure 4: Immunofluorescence analysis of A431 cells using SHC1 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin. Secondary antibody from Fisher (Cat#: 35503)

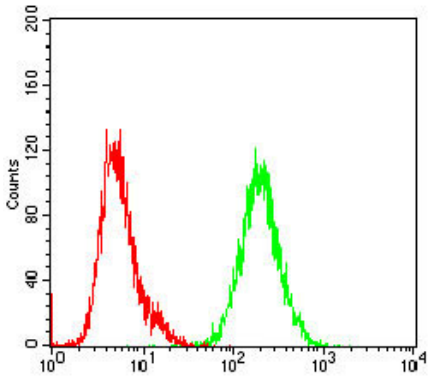


Figure 5: Flow cytometric analysis of NIH/3T3 cells using SHC1 mouse mAb (green) and negative control (red).

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