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|--------------------------|-------------------------------------------------------------------------------------------------|
| <b>Product name:</b>     | Shc Rabbit Polyclonal Antibody                                                                  |
| <b>Cat number:</b>       | ABN17857                                                                                        |
| <b>Conjugate:</b>        | Unconjugated                                                                                    |
| <b>Size:</b>             | 100µL                                                                                           |
| <b>Clone:</b>            | Polyclonal                                                                                      |
| <b>Concentration:</b>    | 1mg/ml                                                                                          |
| <b>Host:</b>             | Rabbit                                                                                          |
| <b>Isotype:</b>          | IgG                                                                                             |
| <b>Immunogen:</b>        | The antiserum was produced against synthesized peptide derived from human Shc. AA range:393-442 |
| <b>Reactivity:</b>       | Human,Mouse,Rat                                                                                 |
| <b>Applications:</b>     | WB 1:500-1:2000,IHC 1:100-1:300,ICC/IF 1:50-1:200,ELISA 1:10000-1:20000                         |
| <b>Molecular Weight:</b> | 66(p66 isoform), 52(p52 isoform), 46(p46 isoform)kDa                                            |
| <b>Purification:</b>     | Affinity purification                                                                           |
| <b>Form:</b>             | Liquid                                                                                          |
| <b>Buffer:</b>           | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.              |
| <b>Storage:</b>          | Store at 4°C short term. Aliquot and store at -20°C for 12 months. Avoid freeze/thaw cycles.    |

**Background:**

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. [provided by RefSeq, Feb 2011],domain:In response to a variety of growth factors, isoform p46Shc and isoform p52Shc bind to phosphorylated Trk receptors through their phosphotyrosine binding (PID) and/or SH2 domains. The PID and SH2 domains bind to specific phosphorylated tyrosine residues in the Asn-Pro-Xaa-Tyr(P) motif of the Trk receptors. Isoform p46Shc and isoform p52Shc are in turn phosphorylated on three tyrosine residues within the extended proline-rich domain. These phosphotyrosines act as docking site for GRB2 and thereby are involved in Ras activation.,function:Signaling adapter that couples activated growth factor receptors to signaling pathway. 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.,PTM:Phosphorylated by activated epidermal growth factor receptor. Isoform p46Shc and isoform p52Shc are phosphorylated on tyrosine residues of the Pro-rich domain. Isoform p66Shc is phosphorylated on Ser-36 upon treatment with insulin, hydrogen peroxide or irradiation with ultraviolet light.,similarity:Contains 1 PID domain.,similarity:Contains 1 SH2 domain.,subcellular location:Localized to the mitochondria matrix. Targeting of isoform p46Shc to mitochondria is mediated by its first 32 amino acids, which behave as a bona fide mitochondrial targeting sequence. Isoform p52Shc and isoform p66Shc, that contain the same sequence but more internally located, display a different subcellular localization.,subunit:Interacts with the Trk receptors in a phosphotyrosine-dependent manner. Interacts with the NPXY motif of tyrosine-phosphorylated IGF1R and INSR in vitro via the PID domain. Once activated, binds to GRB2. Interacts with tyrosine-phosphorylated CD3T. Interacts with the N-terminal region of APS. Interacts with phosphorylated LRP1 and IRS4. Interacts with INPP5D/SHIP1 and INPPL1/SHIP2.,tissue specificity:Widely expressed. Expressed in neural stem cells but absent in mature neurons.,