abcam

Product datasheet

Anti-SHC (phospho Y427) antibody ab51170

2 Images

Overview

Product name	Anti-SHC (phospho Y427) antibody
Description	Rabbit polyclonal to SHC (phospho Y427)
Host species	Rabbit
Specificity	ab51170 detects endogenous levels of SHC only when phosphorylated at tyrosine 427.
Tested applications	**Suitable for:** ELISA, IHC-P, WB
Species reactivity	**Reacts with:** Human
Immunogen	Synthetic phosphopeptide derived from human SHC around the phosphorylation site of tyrosine 427 (P-S-Y^P-V-N).
Positive control	Human brain tissue and Hela cell extracts treated with Calyculin A (50ng/ml, 15min).

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 50% Glycerol, PBS (without Mg^{2+} and Ca^{2+}), 150mM Sodium chloride, pH 7.4
Purity	Immunogen affinity purified
Purification notes	ab51170 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab51170** in the following tested applications.

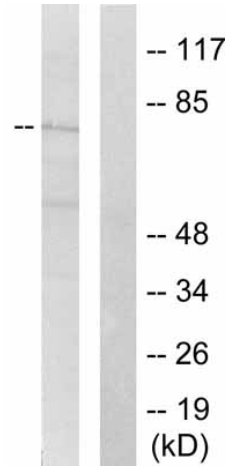
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ELISA		1/10000.
IHC-P		Use at an assay dependent concentration.
WB		1/500 - 1/1000. Detects a band of approximately 63 kDa (predicted molecular weight: 63 kDa).

Target

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.
Tissue specificity	Widely expressed. Expressed in neural stem cells but absent in mature neurons.
Sequence similarities	Contains 1 PID domain. Contains 1 SH2 domain.
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.
Post-translational modifications	Phosphorylated by activated epidermal growth factor receptor. Phosphorylated in response to FLT4 and KIT signaling. Isoform p46Shc and isoform p52Shc are phosphorylated on tyrosine residues of the Pro-rich domain. Isoform p66Shc is phosphorylated on Ser-36 by PRKCB upon treatment with insulin, hydrogen peroxide or irradiation with ultraviolet light (By similarity). Tyrosine phosphorylated in response to FLT3 signaling (By similarity). Tyrosine phosphorylated by activated PTK2B/PYK2 (By similarity). Tyrosine phosphorylated by ligand-activated ALK. Tyrosine phosphorylated by ligand-activated PDGFRB. Tyrosine phosphorylated by TEK/TIE2. May be tyrosine phosphorylated by activated PTK2/FAK1; tyrosine phosphorylation was seen in an astrocytoma biopsy, where PTK2/FAK1 kinase activity is high, but not in normal brain tissue. Isoform p52Shc dephosphorylation by PTPN2 may regulate interaction with GRB2.
Cellular localization	Cytoplasm; Mitochondrion matrix. 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 and Mitochondrion. In case of oxidative conditions, phosphorylation at 'Ser-36' of isoform p66Shc, leads to mitochondrial accumulation.

Images

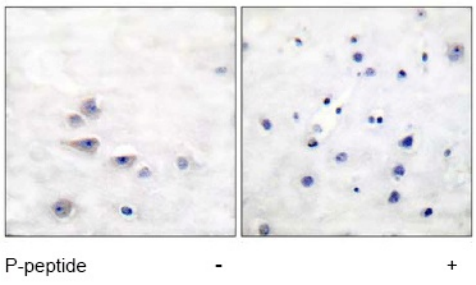


Western blot - Anti-SHC (phospho Y427) antibody (ab51170)

All lanes : Anti-SHC (phospho Y427) antibody (ab51170) at 1/500 dilution

Lane 1 : Hela cell extract treated with Calyculin A (50ng/ml, 15min) with immunising peptide
Lane 2 : Hela cell extract treated with Calyculin A (50ng/ml, 15min)

Predicted band size: 63 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SHC (phospho Y427) antibody (ab51170)

ab51170 at 1/50 dilution staining SHC in human brain by Immunohistochemistry, Paraffin embedded tissue, in the absence or presence of the immunising peptide.

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit https://www.abcam.com/abpromise or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors