abcam

ab16885

Anti-Src antibody [Clone 327]

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.1% Sodium azide Constituents: 0.82% Sodium phosphate, 0.2% Gelatin
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human SRC. Database link P12931
Clone number	Clone 327
Purity	Tissue culture supernatant
Specificity	Reacts with both v-Src and c-Src proteins.
Epitope	Epitope is within the SH3 domain of either v-Src or c-Src. We have no evidence for ab16885 cross-reacting with other src family kinases (e.g.fyn).
Purification notes	Purified from TCS.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-

Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	-
Notes	ab16885 may appear as a doublet on WB due to phosphorylation. This antibody can be used to precipitate active src kinase.

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information SRC

Function

Non-receptor protein tyrosine kinase which is activated following engagement of many different classes of cellular receptors including immune response receptors, integrins and other adhesion receptors, receptor protein tyrosine kinases, G protein-coupled receptors as well as cytokine receptors (PubMed:34234773). Participates in signaling pathways that control a diverse spectrum of biological activities including gene transcription, immune response, cell adhesion, cell cycle progression, apoptosis, migration, and transformation. Due to functional redundancy between members of the SRC kinase family, identification of the specific role of each SRC kinase is very difficult. SRC appears to be one of the primary kinases activated following engagement of receptors and plays a role in the activation of other protein tyrosine kinase (PTK) families. Receptor clustering or dimerization leads to recruitment of SRC to the receptor complexes where it phosphorylates the tyrosine residues within the receptor cytoplasmic domains. Plays an important role in the regulation of cytoskeletal organization through phosphorylation of specific substrates such as AFAP1. Phosphorylation of AFAP1 allows the SRC SH2 domain to bind AFAP1 and to localize to actin filaments. Cytoskeletal reorganization is also controlled through the phosphorylation of cortactin (CTTN) (Probable). When cells adhere via focal adhesions to the extracellular matrix, signals are transmitted by integrins into the cell resulting in tyrosine phosphorylation of a number of focal adhesion proteins, including PTK2/FAK1 and paxillin (PXN) (PubMed:21411625). In addition to phosphorylating focal adhesion proteins, SRC is also active at the sites of cell-cell contact adherens junctions and phosphorylates substrates such as beta-catenin (CTNNB1), delta-catenin (CTNND1), and plakoglobin (JUP). Another type of cell-cell junction, the gap junction, is also a target for SRC, which phosphorylates connexin-43 (GJA1). SRC is implicated in regulation of pre-mRNA-processing and phosphorylates RNA-binding proteins such as KHDRBS1 (Probable). Phosphorylates PKP3 at 'Tyr-195' in response to reactive oxygen species, which may cause the release of PKP3 from desmosome cell junctions into the cytoplasm (PubMed:25501895). Also plays a role in PDGF-mediated tyrosine phosphorylation of both STAT1 and STAT3, leading to increased DNA binding activity of these transcription factors (By similarity). Involved in the RAS pathway through phosphorylation of RASA1 and RASGRF1 (PubMed:11389730). Plays a role in EGF-mediated calcium-activated chloride channel activation (PubMed:18586953). Required for epidermal growth factor receptor (EGFR) internalization through phosphorylation of clathrin heavy chain (CLTC and CLTCL1) at 'Tyr-1477'. Involved in beta-arrestin (ARRB1 and ARRB2) desensitization through phosphorylation and activation of GRK2, leading to beta-arrestin phosphorylation and internalization. Has a critical role in the stimulation of the CDK20/MAPK3 mitogen-activated protein kinase cascade by epidermal growth factor (Probable). Might be involved not only in mediating the transduction of mitogenic signals at the level of the plasma membrane but also in controlling progression through the cell cycle via interaction with regulatory proteins in the nucleus (PubMed:7853507). Plays an important role in osteoclastic bone resorption in conjunction with PTK2B/PYK2. Both the formation of a SRC-PTK2B/PYK2 complex and SRC kinase activity are necessary for this function. Recruited to activated integrins by PTK2B/PYK2, thereby phosphorylating CBL, which in turn induces the activation and recruitment of phosphatidylinositol 3-kinase to the cell membrane in a signaling pathway that is critical for osteoclast function (PubMed:14585963, PubMed:8755529). Upon activation of the G(q)-dependent KISS1/KISS1R signaling pathway, active SRC is recruited, together with the phosphatase DUSP18, to the KISS1R C-terminus (PubMed:38346942). This leads to DUSP18-mediated SRC dephosphorylation and inactivation, down-regulation of osteoclast differentiation

and activity, and consequently suppression of bone resorption (By similarity). Promotes energy production in osteoclasts by activating mitochondrial cytochrome C oxidase (PubMed:12615910). Phosphorylates DDR2 on tyrosine residues, thereby promoting its subsequent autophosphorylation (PubMed:16186108). Phosphorylates RUNX3 and COX2 on tyrosine residues, TNK2 on 'Tyr-284' and CBL on 'Tyr-731' (PubMed:20100835, PubMed:21309750). Enhances RIGI-elicited antiviral signaling (PubMed:19419966). Phosphorylates PDPK1 at 'Tyr-9', 'Tyr-373' and 'Tyr-376' (PubMed:14585963). Phosphorylates BCAR1 at 'Tyr-128' (PubMed:22710723). Phosphorylates CBLC at multiple tyrosine residues, phosphorylation at 'Tyr-341' activates CBLC E3 activity (PubMed:20525694). Phosphorylates synaptic vesicle protein synaptophysin (SYP) (By similarity). Involved in anchorage-independent cell growth (PubMed:19307596). Required for podosome formation (By similarity). Mediates IL6 signaling by activating YAP1-NOTCH pathway to induce inflammation-induced epithelial regeneration (PubMed:25731159). Phosphorylates OTUB1, promoting deubiquitination of RPTOR (PubMed:35927303). Phosphorylates caspase CASP8 at 'Tyr-380' which negatively regulates CASP8 processing and activation, down-regulating CASP8 proapoptotic function (PubMed:16619028). Mediates laminin-induced activation of RAC1 signaling through phosphorylation of syntrophin (By similarity). Isoform 1. Non-receptor protein tyrosine kinase which phosphorylates synaptophysin with high affinity. Isoform 2. Non-receptor protein tyrosine kinase which shows higher basal kinase activity than isoform 1, possibly due to weakened intramolecular interactions which enhance autophosphorylation of Tyr-419 and subsequent activation (By similarity). The SH3 domain shows reduced affinity with the linker sequence between the SH2 and kinase domains which may account for the increased basal activity (By similarity). Displays altered substrate specificity compared to isoform 1, showing weak affinity for synaptophysin and for peptide substrates containing class I or class II SH3 domain-binding motifs (By similarity). Plays a role in L1CAM-mediated neurite elongation, possibly by acting downstream of L1CAM to drive cytoskeletal rearrangements involved in neurite outgrowth (By similarity). Isoform 3. Non-receptor protein tyrosine kinase which shows higher basal kinase activity than isoform 1, possibly due to weakened intramolecular interactions which enhance autophosphorylation of Tyr-419 and subsequent activation (By similarity). The SH3 domain shows reduced affinity with the linker sequence between the SH2 and kinase domains which may account for the increased basal activity (By similarity). Displays altered substrate specificity compared to isoform 1, showing weak affinity for synaptophysin and for peptide substrates containing class I or class II SH3 domain-binding motifs (By similarity). Plays a role in neurite elongation (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

May appear as a doublet due to phosphorylation. May be used to precipitate active Src which can then be used in a kinase reaction.
This product was changed from ascites to tissue culture supernatant on 17 May 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Src also known as c-Src is a protein-tyrosine kinase involved in the regulation of many cellular processes. The molecular weight of Src is approximately 60 kDa. Src is ubiquitously expressed in human tissues but shows increased expression in specific tissues like the brain and epithelial cells. This protein has several important roles in cellular signal transduction particularly influencing cell growth differentiation and survival.
Biological function summary	The Src protein interacts with other proteins to modulate cell adhesion motility and angiogenesis forming part of larger protein complexes. Src phosphorylates specific tyrosine residues on its substrates altering their activity interaction or stability. This activity positions Src as an important factor in managing cell communication and structural organization. Src's interaction with focal adhesion complexes emphasizes its functionality in cellular structural integrity and intracellular communication pathways.
Pathways	Src plays a critical role in the integrin and growth factor receptor signaling pathways mediating cross-talk between cell surface receptors and intricate signaling cascades. It closely associates with focal adhesion kinase (FAK) within these pathways influencing cytoskeletal rearrangements and cell movement. Src's function in the epidermal growth factor receptor (EGFR) signaling pathway likewise demonstrates its importance in regulating cellular proliferation and survival mechanisms.
Associated diseases and disorders	Src has significant implications in oncogenesis particularly in colorectal and breast cancers. Overexpression or abnormal activity of Src associates with tumor progression and metastasis. Within these cancers Src cooperates with various proteins like the EGFR amplifying aberrant cell signaling that contributes to uncontrolled cell growth. Investigating Src's role and regulation could offer insights into novel therapeutic strategies for controlling Src activity in cancer treatment.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

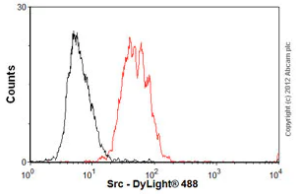
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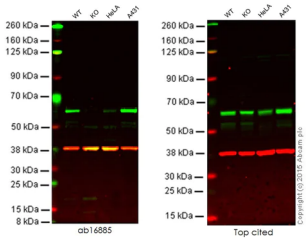
5 product images



Flow Cytometry - Anti-Src antibody [Clone 327] (ab16885)

Src Flow Cytometry staining using mouse Anti-Src antibody

Overlay histogram showing SH-SY5Y cells stained with ab16885 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab16885, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This image was generated using the ascites version of the product.



Western blot - Anti-Src antibody [Clone 327] (ab16885)

Src Western blot staining using mouse Anti-Src antibody

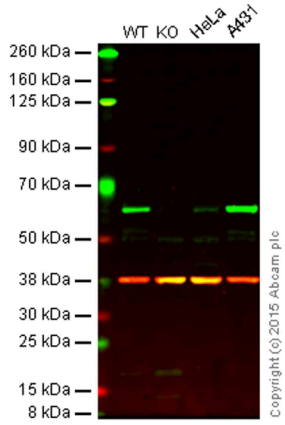
Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: Src knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: A431 cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab16885 observed at 60 kDa. Red - loading control, ab8245, observed at 37 kDa.

This western blot image is a comparison between ab16885 and a competitor's top cited rabbit polyclonal antibody.

This image was generated using the ascites version of the product.

All lanes:
Western blot - Anti-Src antibody [Clone 327] (ab16885)

Predicted band size: 60 kDa



Western blot - Anti-Src antibody [Clone 327] (ab16885)

Src Western blot staining using mouse Anti-Src antibody

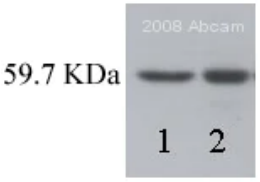
Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: Src knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: A431 cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab16885 observed at 60 kDa. Red - loading control, ab8227, observed at 42 kDa.
ab16885 was shown to specifically react with Src when Src knockout samples were used. Wild-type and Src knockout samples were subjected to SDS-PAGE. ab16885 and ab8227 (loading control to beta Actin) were diluted 2.5µg/ml and 1/1000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (ab216772) and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (ab216777) secondary antibodies at 1/10000 dilution for 1 h at room temperature before imaging.

This image was generated using the ascites version of the product.

All lanes:
Western blot - Anti-Src antibody [Clone 327] (ab16885)

Predicted band size: 190 kDa, 53 kDa, 57 kDa, 60 kDa

Observed band size: 193 kDa



This image is courtesy of an anonymous customer review

Western blot - Anti-Src antibody [Clone 327] (ab16885)

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-Src antibody [Clone 327] (ab16885) at 2.5 µg/mL

Lane 1:
Whole cell lysate prepared from human MCF-7 cells (Untreated)

Lane 2:
Whole cell lysate prepared from human MCF-7 cells (Treated with 10uM PP2)

Secondary

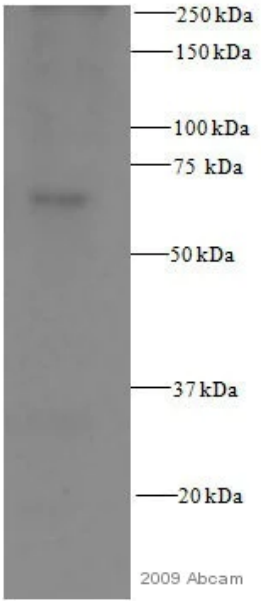
All lanes:
HRP conjugated Donkey polyclonal to mouse Ig at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 60 kDa

Exposure time: 3min



This image is a courtesy of Anonymous customer review

Western blot - Anti-Src antibody [Clone 327] (ab16885)

This image was generated using the ascites version of the product.
All lanes:
Western blot - Anti-Src antibody [Clone 327] (ab16885) at 1/100 dilution

All lanes:
Lysate prepared from mouse NIH 3T3 cell line at 10 µg

Secondary

All lanes:
HRP-conjugated sheep monoclonal to mouse IgG at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 60 kDa

Observed band size: 60 kDa

Exposure time: 12min

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.