



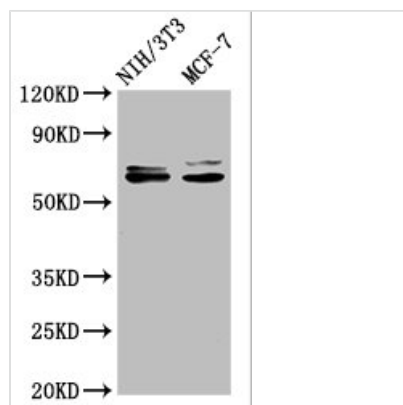
SRC Recombinant Monoclonal Antibody

Product Code	CSB-RA022650A0HU
Abbreviation	Proto-oncogene tyrosine-protein kinase Src
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P12931
Immunogen	A synthesized peptide derived from human SRC
Species Reactivity	Human, Mouse
Tested Applications	ELISA, WB, IF, FC; Recommended dilution: WB:1:500-1:5000, IF:1:20-1:200
Relevance	<p>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. 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). 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</p>



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:8755529, PubMed:14585963). 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 DDX58/RIG-I-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). Involved in anchorage-independent cell growth (PubMed:19307596). Required for podosome formation (By similarity).

Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Proto-oncogene tyrosine-protein kinase Src, Proto-oncogene c-Src, pp60c-src, p60-Src, SRC, SRC1
Immunogen Species	Homo sapiens (Human)
Research Area	Signal Transduction
Gene Names	SRC
Clone No.	21H5
Image	



Western Blot

Positive WB detected in: NIH/3T3 whole cell lysate, MCF-7 whole cell lysate

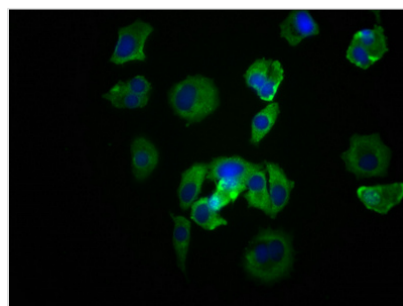
All lanes: SRC antibody at 1.2 μ g/ml

Secondary

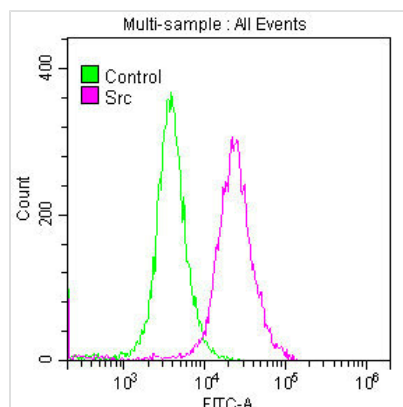
Goat polyclonal to rabbit IgG at 1/50000 dilution

Predicted band size: 60, 61 KDa

Observed band size: 60, 61 KDa



Immunofluorescence staining of MCF-7 cells with CSB-RA022650A0HU at 1:39, counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4 $^{\circ}$ C. The secondary antibody was Alexa Fluor 488-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L).



Overlay histogram showing SH-SY5Y cells stained with CSB-RA022650A0HU (red line) at 1:50. The cells were fixed with 70% Ethylalcohol (18h) and then permeabilized with 0.3% Triton X-100 for 2 min. The cells were then incubated in 1x PBS /10% normal goat serum to block non-specific protein-protein interactions followed by primary antibody for 1 h at 4 $^{\circ}$ C. The secondary antibody used was FITC goat anti-rabbit IgG (H+L) at 1/200 dilution for 1 h at 4 $^{\circ}$ C. Control antibody (green line) was used under the same conditions. Acquisition of >10,000 events was performed.

Description

The SRC recombinant monoclonal antibody is generated using DNA recombinant technology and in vitro genetic manipulation. The process begins with immunizing an animal with a synthesized peptide derived from human SRC, followed by the isolation and screening of B cells to identify positive ones. Through PCR amplification, the genes encoding the light and heavy chains of the SRC antibody are obtained and inserted into a plasmid vector, resulting in a recombinant vector. This vector is then introduced into a host cell line for the expression of the antibody. The SRC recombinant monoclonal antibody is purified from the cell culture supernatant using affinity chromatography. It demonstrates specificity for both human and mouse SRC proteins and is particularly suitable for ELISA, WB, IF, and FC applications.

The SRC protein is a type of protein kinase that plays a crucial role in regulating cellular processes such as cell growth, division, and differentiation. In cells, the SRC protein can phosphorylate other proteins by adding a phosphate group to them, which can either activate or inhibit their function. It is also involved in the



regulation of gene expression and can influence the activity of transcription factors that control the expression of genes. SRC protein has also been implicated in cancer. Mutations in the SRC gene or overexpression of the SRC protein can lead to uncontrolled cell growth and proliferation, which are hallmarks of cancer.