



Rabbit Anti-phospho-Src (Tyr215) antibody

SL5624R

Product Name:	phospho-Src (Tyr215)
Chinese Name:	磷酸化Src原癌基因抗体
Alias:	SRC(phospho Tyr215); Src (phospho Y215); p-Src (phospho Y215); ASV; Avian sarcoma virus; c SRC; CDNA FLJ14219 fis clone NT2RP3003800 highly similar to Rattus norvegicus tyrosine protein kinase pp60 c src mRNA; cSrc; EC 2.7.10.2; Neuronal CSRC tyrosine specific protein kinase; Neuronal SRC; Oncogene SRC; OTTHUMP00000030931; OTTHUMP00000174476; OTTHUMP00000174477; p60 Src; p60-Src; p60Src; pp60c src; pp60c-src; pp60csrc; Proto oncogene tyrosine protein kinase Src; Proto-oncogene c-Src; Proto-oncogene tyrosine-protein kinase Src; Protooncogene SRC; protooncogene SRC Rous sarcoma; Src; SRC Oncogene; SRC_HUMAN; SRC1; Tyrosine kinase pp60c src; Tyrosine protein kinase SRC 1; Tyrosine protein kinase SRC1; v src avian sarcoma (Schmidt Ruppin A2) viral oncogene homolog; V src sarcoma (Schmidt Ruppin A 2) viral oncogene homolog (avian); v src sarcoma (Schmidt Ruppin A 2) viral oncogene homolog avian; vsrc avian sarcoma (Schmidt Ruppin A2) viral oncogene homolog.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Chicken,Dog,
Applications:	ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	60kDa
Cellular localization:	The cell membraneExtracellular matrix
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated Synthesised phosphopeptide derived from mouse Src around the phosphorylation site of Tyr215:GF(p-Y)IT
Lsotype:	IgG

Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
PubMed:	PubMed
Product Detail:	<p>Src (also known as pp60src) is a non receptor Tyrosine Kinase involved in signal transduction in many biological systems and implicated in the development of human tumors. There are two critical phosphorylation sites of tyrosine on Src, tyrosine 418 and tyrosine 529 (referring to human Src sequence). The tyrosine 418 is located in the catalytic domain and is one of the autophosphorylation sites. Full catalytic activity of Src requires phosphorylation of tyrosine 418. The tyrosine 529 is located near the carboxyl terminus of Src and acts as a negative regulator, in that Src is held in the inactive form through an intramolecular interaction between the SH2 domain and the carboxyl terminus when tyrosine 529 is phosphorylated by Csk. This conformation blocks phosphorylation of tyrosine 418 at the catalytic domain, thereby preventing Src activation. When tyrosine 529 is dephosphorylated, tyrosine 418 can be maximally phosphorylated and Src becomes active. Src is a proto oncogene that may play a role in the regulation of embryonic development and cell growth. Mutations in this gene could be involved in the malignant progression of colon cancer. Immunogen: Synthetic peptide (Human) derived from the region of Src that contains tyrosine 529, based on the human sequence. The sequence is conserved in mouse (tyrosine 534), chicken (tyrosine 527) and frog (tyrosine 525).</p> <p>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. 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). When cells adhere via focal adhesions to the extra-cellular 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). In addition to phosphorylating focal adhesion proteins, SRC is also active at the sites of cell-cell contact adherens junctions</p>

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. Also plays a role in PDGF-mediated tyrosine phosphorylation of both STAT1 and STAT3, leading to increased DNA binding activity of these transcription factors. Involved in the RAS pathway through phosphorylation of RASA1 and RASGRF1. Plays a role in EGF-mediated calcium-activated chloride channel activation. 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 ADRBK1, 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. 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. 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. Promotes energy production in osteoclasts by activating mitochondrial cytochrome C oxidase. Phosphorylates DDR2 on tyrosine residues, thereby promoting its subsequent autophosphorylation. Phosphorylates RUNX3 and COX2 on tyrosine residues, TNK2 on 'Tyr-284' and CBL on 'Tyr-731'. Enhances DDX58/RIG-I-elicited antiviral signaling. Phosphorylates PDPK1 at 'Tyr-9', 'Tyr-373' and 'Tyr-376'.

Subunit:

Interacts with DDEF1/ASAP1; via the SH3 domain. Interacts with CCPG1. Identified in a complex containing FGFR4, NCAM1, CDH2, PLCG1, FRS2, SRC, SHC1, GAP43 and CTTN (By similarity). Interacts with ERBB2, STAT1 and PNN (By similarity). Interacts with CDCP1, PELP1, TGFB1I1 and TOM1L2. Interacts with the cytoplasmic domain of MUC1, phosphorylates it and increases binding of MUC1 with beta-catenin. Interacts with RALGPS1; via the SH3 domain. Interacts with HEV ORF3 protein; via the SH3 domain. Interacts with CAV2 (tyrosine phosphorylated form). Interacts (via the SH3 domain and the protein kinase domain) with ARRB1; the interaction is independent of the phosphorylation state of SRC C-terminus. Interacts with ARRB1 and ARRB2. Interacts with SRCIN1. Interacts with NDFIP2 and more weakly with NDFIP1. Interacts with PIK3CA and/or PIK3C2B, PTK2/FAK1 and ESR1 (dimethylated on arginine). Interacts with FASLG. Interacts (via SH2 domain) with the 'Tyr-402' phosphorylated form of PTK2B/PYK2. Interacts (via SH2 domain) with FLT3 (tyrosine phosphorylated). Interacts with PDGFRA (tyrosine phosphorylated). Interacts with CSF1R (By similarity). Interacts (via SH2 and SH3 domain) with TNK2. Interacts (via protein kinase domain) with the tyrosine phosphorylated form of RUNX3 (via runt domain). Interacts with TRAF3 (via RING-type zinc finger domain). Interacts

with DDX58, MAVS and TBK1. Interacts (via SH2 domain) with GNB2L1/RACK1; the interaction is enhanced by tyrosine phosphorylation of GNB2L1 and inhibits SRC activity. Interacts with EPHB1; activates the MAPK/ERK cascade to regulate cell migration. Interacts with FCAMR. Interacts (via SH2 domain) with the 'Tyr-9' phosphorylated form of PDPK1.

Subcellular Location:

Cell membrane. Mitochondrion inner membrane. Nucleus. Cytoplasm, cytoskeleton. Note=Localizes to focal adhesion sites following integrin engagement. Localization to focal adhesion sites requires myristoylation and the SH3 domain.

Tissue Specificity:

Expressed ubiquitously. Platelets, neurons and osteoclasts express 5-fold to 200-fold higher levels than most other tissues.

Post-translational modifications:

Myristoylated at Gly-2, and this is essential for targeting to membranes. Dephosphorylated at Tyr-530 by PTPRJ (By similarity). Phosphorylated on Tyr-530 by c-Src kinase (CSK). The phosphorylated form is termed pp60c-src. Dephosphorylated by PTPRJ at Tyr-419. Normally maintained in an inactive conformation with the SH2 domain engaged with Tyr-530, the SH3 domain engaged with the SH2-kinase linker, and Tyr-419 dephosphorylated. Dephosphorylation of Tyr-530 as a result of protein tyrosine phosphatase (PTP) action disrupts the intramolecular interaction between the SH2 domain and Tyr-530, Tyr-419 can then become autophosphorylated, resulting in SRC activation. Phosphorylation of Tyr-530 by CSK allows this interaction to reform, resulting in SRC inactivation. CDK5-mediated phosphorylation at Ser-75 targets SRC to ubiquitin-dependent degradation and thus leads to cytoskeletal reorganization. Phosphorylated by PTK2/FAK1; this enhances kinase activity. Phosphorylated by PTK2B/PYK2; this enhances kinase activity. S-nitrosylation is important for activation of its kinase activity (By similarity). Ubiquitinated in response to CDK5-mediated phosphorylation.

DISEASE:

Note=SRC kinase activity has been shown to be increased in several tumor tissues and tumor cell lines such as colon carcinoma cells.

Similarity:

Belongs to the protein kinase superfamily. Tyr protein kinase family. SRC subfamily. Contains 1 protein kinase domain. Contains 1 SH2 domain. Contains 1 SH3 domain.

SWISS:

P05480

Gene ID:

20779

Database links:

[Entrez Gene: 6714](#)Human

[Entrez Gene: 20779](#)Mouse

[Entrez Gene: 83805](#)Rat

[Omim: 190090](#)Human

[SwissProt: P12931](#)Human

[SwissProt: P05480](#)Mouse

[SwissProt: Q9WUD9](#)Rat

[Unigene: 195659](#)Human

[Unigene: 112600](#)Rat

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