Phospho-Src(y419) Antibody Blocking Peptide

PRODUCT OVERVIEW

Product Name	SRC (Y419), Blocking Peptide
Full Product Name	Phospho-SRC(Y419) Antibody Blocking peptide
Product Gene Name	SRC blocking peptide
Product Synonym Gene Name	SRC1
Product Synonym Names	Proto-oncogene tyrosine-protein kinase Src; Proto-oncogene c-Src; pp60c-src; p60-Src; SRC; SRC1
Form/Format	Synthetic peptide was lyophilized with 100% acetonitrile and is supplied as a powder. Reconstitute with 0.1 ml DI water for a final concentration of 1 mg/ml.
Specificity	The synthetic peptide sequence used to generate the antibody was selected from the region of human Phospho-SRC-Y419. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 6 months. For long term storage store at -20 degree C.
Antibody/Peptide Pairs	SRC (Y419) peptide (MBS9225217) is used for blocking the activity of SRC (Y419) antibody (MBS9202460)
Molecular Weight	60,589 Da
OMIM	190090
Cellular 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 Location	Expressed ubiquitously. Platelets, neurons and osteoclasts express 5-fold to 200-fold higher levels than most other tissues

Related Product Information for SRC blocking peptide	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 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). 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. 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'. Phosphorylates BCAR1 at 'Tyr- 128'. Phosphorylates CBLC at multiple tyrosine residues, phosphorylation at 'Tyr-341' activates CBLC E3 activity.
Other Notes	Small volumes of SRC blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for SRC purchase	MBS9225217 is a blocking peptide targeting SRC. Also known as Phospho-SRC(Y419) Antibody Blocking peptide.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SRC. It may not necessarily be applicable to this product.

NCBI GI #	125711
NCBI GeneID	6714
NCBI Accession #	P12931.3
UniProt Primary Accession #	P12931
UniProt Secondary Accession #	Q76P87; Q86VB9; Q9H5A8; E1P5V4
UniProt Related Accession #	P12931
NCBI Official Full Name	Proto-oncogene tyrosine-protein kinase Src
NCBI Official Synonym Full Names	SRC proto-oncogene, non-receptor tyrosine kinase
NCBI Official Symbol	SRC
NCBI Official Synonym Symbols	ASV; SRC1; THC6; c-SRC; p60-Src

UniProt Protein Name	Proto-oncogene tyrosine-protein kinase Src
UniProt Synonym Protein Names	Proto-oncogene c-Src; pp60c-src; p60-Src
Protein Family	Neuronal proto-oncogene tyrosine-protein kinase
UniProt Gene Name	SRC
UniProt Synonym Gene Names	SRC1; p60-Src
UniProt Entry Name	SRC_HUMAN
NCBI Protein Information	proto-oncogene tyrosine-protein kinase Src
NCBI Summary for SRC	This gene is highly similar to the v-src gene of Rous sarcoma virus. This proto-oncogene may play a role in the regulation of embryonic development and cell growth. The protein encoded by this gene is a tyrosine-protein kinase whose activity can be inhibited by phosphorylation by c-SRC kinase. Mutations in this gene could be involved in the malignant progression of colon cancer. Two transcript variants encoding the same protein have been found for this gene. [provided by RefSeq, Jul 2008]
UniProt Comments for SRC	Src: proto-oncogenic cytoplasmic tyrosine kinase of the SRC family. Highly expressed in certain fully differentiated cells such as neurons, platelets and macrophages. Phosphorylation of an activation loop tyrosine activates the enzyme; phosphorylation of a tyrosine in the C-terminus by Csk inhibits the enzyme. Two alternatively spliced isoforms have been described. Protein type: Protein kinase, TK; EC 2.7.10.2; Oncoprotein; Kinase, protein; Protein kinase, tyrosine (non-receptor); TK group; Src family Chromosomal Location of Human Ortholog: 20q12-q13 Cellular Component: caveola; cytoplasm; cytosol; extrinsic to internal side of plasma membrane; late endosome; lysosome; mitochondrial inner membrane; mitochondrion; plasma membrane Molecular Function: enzyme binding; ephrin receptor binding; heme binding; hormone receptor binding; integrin binding; kinase activity; kinase binding; non-membrane spanning protein tyrosine kinase activity; phosphoprotein binding; protein binding; protein kinase activity; protein-tyrosine kinase activity; receptor binding; SH2 domain binding; SH3/SH2 adaptor activity Biological Process: bone resorption; central nervous system development; ephrin receptor signaling pathway; epidermal growth factor receptor signaling pathway; estrogen receptor signaling pathway; innate immune response; integrin-mediated signaling pathway; leukocyte migration; negative regulation of apoptosis; negative regulation of caspase activity; negative regulation of focal adhesion formation; negative regulation of mitochondrial depolarization; negative regulation of protein homooligomerization; negative regulation of telomerase activity; negative regulation of telomere maintenance via telomerase; peptidyl-tyrosine phosphorylation; platelet activation; platelet-derived growth factor receptor signaling pathway; positive regulation of integrin activation; positive regulation of peptidyl-tyrosine phosphorylation; positive regulation of protein kinase B signaling cascade; progesterone receptor signaling pathway; protein amino acid autophosphorylation; regulation of bone resorption; regulation of cell cycle; regulation of cell proliferation; regulation of cell-cell adhesion; regulation of vascular permeability; signal complex assembly; signal transduction; stimulatory C-type lectin receptor signaling pathway; stress fiber formation; T cell costimulation; transforming growth factor beta receptor signaling pathway; vascular endothelial growth factor receptor signaling pathway
Research Articles on SRC	**1.** Data show that c-Src is expressed by Sertoli and germ cells; its activation is required for germ cell adhesion and detachment and it mediates disassembly of Sertoli cell-spermatid junctions during spermatogenesis through an endocytic mechanism.[review]
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