abcam

Product datasheet

Anti-Src (phospho Y529) antibody ab4817

4 References 1 Image

Overview

Product name	Anti-Src (phospho Y529) antibody
Description	Rabbit polyclonal to Src (phospho Y529)
Host species	Rabbit
Specificity	Fyn and Yes (92%homologous) were not tested.
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Chicken
Immunogen	Synthetic peptide corresponding to Human Src (phospho Y529). Contains tyrosine 529 (tyrosine 530 including the initiating methionine). The sequence is conserved in mouse, rat, chicken and frog.

General notes

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. 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 the catalytic domain residue (tyrosine 418 in the human sequence), thereby preventing Src activation. When tyrosine 529 is dephosphorylated, tyrosine 418 can be maximally phosphorylatedleading to full activation.

The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

Storage buffer	pH: 7.30 Preservative: 0.05% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.1% BSA
Purity	Immunogen affinity purified
Purification notes	Purified from rabbit serum by sequential epitope-specific chromatography. The antibody has been negatively preadsorbed using (i) a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated Src, and (ii) a generic tyrosine phosphorylated peptide to remove antibody that is reactive with phosphotyrosine, irrespective of the sequence. The final product is generated by affinity chromatography using a Src-derived peptide that is phosphorylated at tyrosine 529.
Primary antibody notes	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. 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 the catalytic domain residue (tyrosine 418 in the human sequence), thereby preventing Src activation. When tyrosine 529 is dephosphorylated, tyrosine 418 can be maximally phosphorylatedleading to full activation.
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our Abpromise guarantee covers the use of ab4817 in the following tested applications.

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

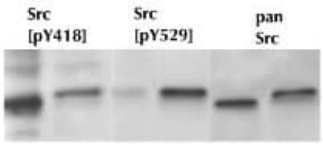
Application	Abreviews	Notes
WB		1/1000. Detects a band of approximately 62 kDa (predicted molecular weight: 62 kDa).

Target

Function	Non-receptor protein tyrosine kinase that plays pivotal roles in numerous cellular processes such as proliferation, migration, and transformation. In concert with PTK2B, plays an important role in osteoclastic bone resorption. Both the formation of a SRC-PTK2B complex, and SRC kinase activity are necessary for this function. Once it is recruited to the activated integrins, by PTK2B, it phosphorylates 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 RUNX3 and COX2 on tyrosine residues, TNK2 on 'Tyr-284' and CBL on 'Tyr-731'. Enhances DDX58/RIG-I-elicited antiviral signaling.
Sequence similarities	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.
Post-translational	Dephosphorylated at Tyr-530 by PTPRJ (By similarity). Phosphorylated on Tyr-530 by c-Src

modifications	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. S-nitrosylation is important for activation of its kinase activity.
Cellular localization	Cell membrane. Mitochondrion inner membrane.
Form	This protein is known to be similar in amino acid sequence to HCK (P08631), LCK (P06239), FYN (P06241), YES1 (P07947), and LYN (P07948). Therefore, cross-reactivity with these homologous proteins may be observed. We would be happy to provide immunogen alignment information upon request.

Images



Western blot - Anti-Src (phospho Y529) antibody (ab4817)

Dr. Michael Schaller, Dept. of Cell Bio. & Anat., Univ. of North Carolina, Chapel Hill, NC.

Western blot detection of Src phosphorylation in extracts of chick embryo fibroblasts expressing wild-type (lanes 2,4,6) or mutant (lanes 1,3,5) pp60src. Truncation of Src at position 518 eliminated phosphorylation at the negative regulatory site [pY529], while increasing phosphorylation at the catalytic site [pY418].

Western blot detection of Src phosphorylation in extracts of chick embryo fibroblasts expressing wild-type (lanes 2,4,6) or mutant (lanes 1,3,5) pp60src. Truncation of Src at position 518 eliminated phosphorylation at the negative regulatory site [pY529], while increasing phosphorylation at the catalytic site [pY418].

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