

Anti-Syk antibody ab155187

★★★★★ [1 Abreviews](#) [5 References](#) [9 Images](#)

Overview

| | |
|----------------------------|---|
| Product name | Anti-Syk antibody |
| Description | Rabbit polyclonal to Syk |
| Host species | Rabbit |
| Tested applications | Suitable for: WB, IHC-P, ICC/IF, IP |
| Species reactivity | Reacts with: Mouse, Rat, Human |
| Immunogen | Recombinant fragment corresponding to a region within internal sequence amino acids 148-483 of Human Syk (UniProt P43405). |
| Positive control | WB: BMDM, Raji, A431, mouse spleen tissue; IHC-P: Human cervical cancer, endometrium; rat spleen tissue; IF: A431 whole cell lysate; IP: A431 whole cell lysate. |
| General notes | <p>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.</p> <p>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</p> |

Properties

| | |
|-----------------------------|--|
| Form | Liquid |
| Storage instructions | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| Storage buffer | <p>pH: 7.00</p> <p>Preservative: 0.025% Proclin 300</p> <p>Constituents: 79% PBS, 20% Glycerol (glycerin, glycerine)</p> |
| Purity | Immunogen affinity purified |
| Clonality | Polyclonal |
| Isotype | IgG |

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab155187 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) | 1/500 - 1/3000. Predicted molecular weight: 72 kDa. |
| IHC-P | | 1/100 - 1/1000. Perform heat mediated antigen retrieval before commencing with IHC staining protocol using 10mM Citrate buffer (pH6.0) or Tris-EDTA buffer (pH8.0). |
| ICC/IF | | 1/100 - 1/1000. |
| IP | | 1/100 - 1/500. |

Target

Function

Non-receptor tyrosine kinase which mediates signal transduction downstream of a variety of transmembrane receptors including classical immunoreceptors like the B-cell receptor (BCR). Regulates several biological processes including innate and adaptive immunity, cell adhesion, osteoclast maturation, platelet activation and vascular development. Assembles into signaling complexes with activated receptors at the plasma membrane via interaction between its SH2 domains and the receptor tyrosine-phosphorylated ITAM domains. The association with the receptor can also be indirect and mediated by adapter proteins containing ITAM or partial hemITAM domains. The phosphorylation of the ITAM domains is generally mediated by SRC subfamily kinases upon engagement of the receptor. More rarely signal transduction via SYK could be ITAM-independent. Direct downstream effectors phosphorylated by SYK include VAV1, PLCG1, PI-3-kinase, LCP2 and BLNK. Initially identified as essential in B-cell receptor (BCR) signaling, it is necessary for the maturation of B-cells most probably at the pro-B to pre-B transition. Activated upon BCR engagement, it phosphorylates and activates BLNK an adapter linking the activated BCR to downstream signaling adapters and effectors. It also phosphorylates and activates PLCG1 and the PKC signaling pathway. It also phosphorylates BTK and regulates its activity in B-cell antigen receptor (BCR)-coupled signaling. In addition to its function downstream of BCR plays also a role in T-cell receptor signaling. Plays also a crucial role in the innate immune response to fungal, bacterial and viral pathogens. It is for instance activated by the membrane lectin CLEC7A. Upon stimulation by fungal proteins, CLEC7A together with SYK activates immune cells inducing the production of ROS. Also activates the inflammasome and NF-kappa-B-mediated transcription of chemokines and cytokines in presence of pathogens. Regulates neutrophil degranulation and phagocytosis through activation of the MAPK signaling cascade. Also mediates the activation of dendritic cells by cell necrosis stimuli. Also involved in mast cells activation. Also functions downstream of receptors mediating cell adhesion. Relays for instance, integrin-mediated neutrophils and macrophages activation and P-selectin receptor/SELPG-mediated recruitment of leukocytes to inflammatory loci. Plays also a role in non-immune processes. It is for instance involved in vascular development where it may regulate blood and lymphatic vascular separation. It is also required for osteoclast development and function. Functions in the activation of platelets by collagen, mediating PLCG2 phosphorylation and activation. May be coupled to the collagen receptor by the ITAM domain-containing FCER1G. Also activated by the membrane lectin CLEC1B that is required for activation of platelets by PDPN/podoplanin. Involved in platelet adhesion being activated by ITGB3 engaged by fibrinogen.

Tissue specificity

Widely expressed in hematopoietic cells (at protein level). Within the B-cells compartment it is for

instance expressed for pro-B-cells to plasma cells.

Sequence similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. SYK/ZAP-70 subfamily. Contains 1 protein kinase domain. Contains 2 SH2 domains.

Domain

The SH2 domains mediate the interaction of SYK with the phosphorylated ITAM domains of transmembrane proteins. Some proteins like CLEC1B have a partial ITAM domain (also called hemITAM) containing a single YxxL motif. The interaction with SYK requires CLEC1B homodimerization.

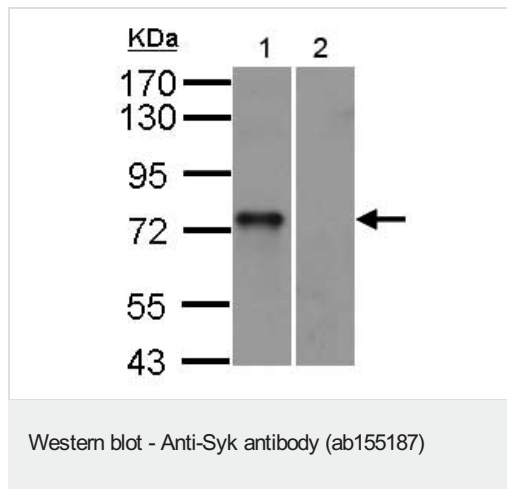
Post-translational modifications

Ubiquitinated by CBLB after BCR activation; which promotes proteasomal degradation. Autophosphorylated. Phosphorylated on tyrosine residues by LYN following receptors engagement. Phosphorylation on Tyr-323 creates a binding site for CBL, an adapter protein that serves as a negative regulator of BCR-stimulated calcium ion signaling. Phosphorylation at Tyr-348 creates a binding site for VAV1. Phosphorylation on Tyr-348 and Tyr-352 enhances the phosphorylation and activation of phospholipase C-gamma and the early phase of calcium ion mobilization via a phosphoinositide 3-kinase-independent pathway (By similarity). Phosphorylation on Ser-297 is very common, it peaks 5 minutes after BCR stimulation, and creates a binding site for YWHAG. Phosphorylation at Tyr-630 creates a binding site for BLNK. Dephosphorylated by PTPN6.

Cellular localization

Cell membrane. Cytoplasm, cytosol.

Images



All lanes : Anti-Syk antibody (ab155187) at 1/1000 dilution

Lane 1 : BMDM (Mouse bone marrow-derived macrophage) whole cell lysate

Lane 2 : Syk null cell

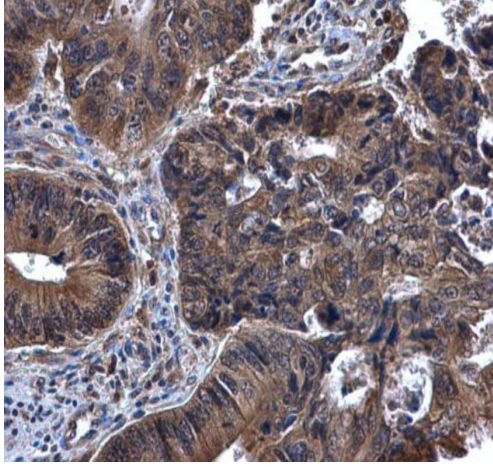
Lysates/proteins at 30 µg per lane.

Secondary

All lanes : HRP-conjugated anti-rabbit IgG antibody

Predicted band size: 72 kDa

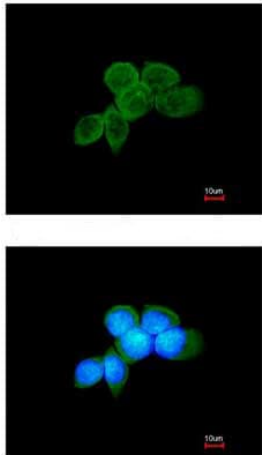
10% SDS PAGE



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Syk antibody (ab155187)

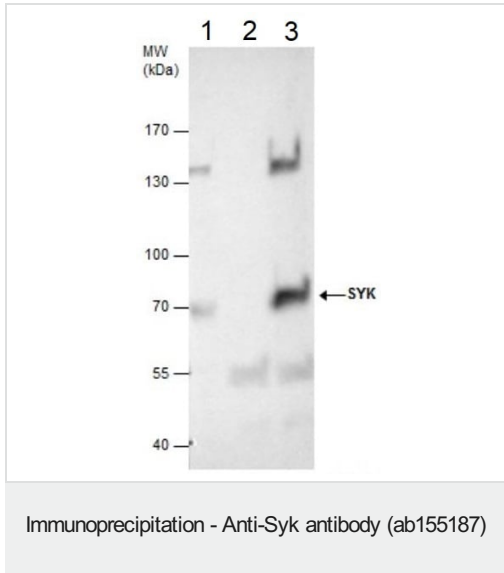
Immunohistochemical analysis of paraffin-embedded human cervical cancer tissue staining Syk at cytoplasm with ab155187 at 1/500 dilution.

Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Immunocytochemistry/ Immunofluorescence - Anti-Syk antibody (ab155187)

Immunofluorescence analysis of methanol-fixed A431 (human epidermoid carcinoma cell line) cells labeling Syk with ab155187 at 1/200 dilution. Lower panel co-stained with Hoechst 33342.



Immunoprecipitation analysis of SYK protein from A431 (human epidermoid carcinoma cell line) whole cell lysates.

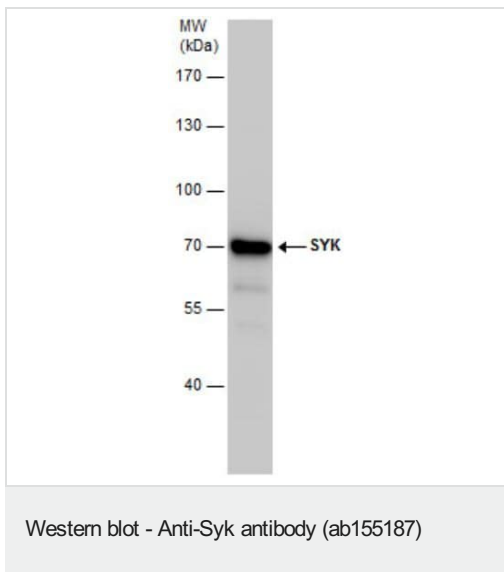
IP samples:

1: A431 whole cell lysates;

2: Control with IgG;

3: Immunoprecipitate of Syk protein by 5 µg of ab155187.

Western blot analysis was performed using ab155187, followed by anti-Rabbit IgG antibody.



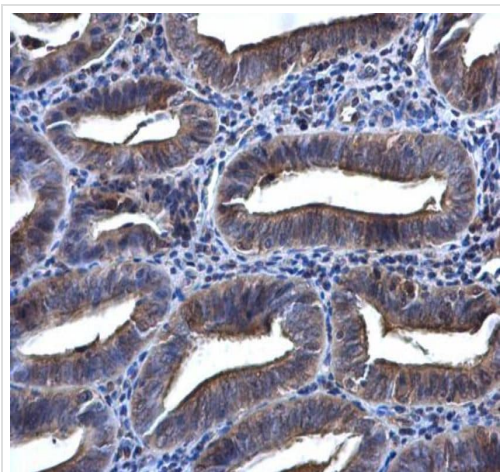
Anti-Syk antibody (ab155187) at 1/2000 dilution + Raji (human Burkitt's lymphoma cell line) whole cell lysate at 30 µg

Secondary

HRP-conjugated anti-rabbit IgG antibody

Predicted band size: 72 kDa

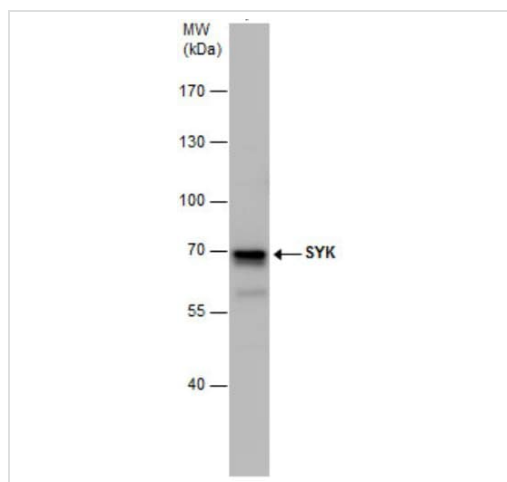
7.5% SDS-PAGE



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Syk antibody (ab155187)

Immunohistochemical analysis of paraffin-embedded human endometrium tissue staining Syk at cytoplasm with ab155187 at 1/500 dilution.

Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Western blot - Anti-Syk antibody (ab155187)

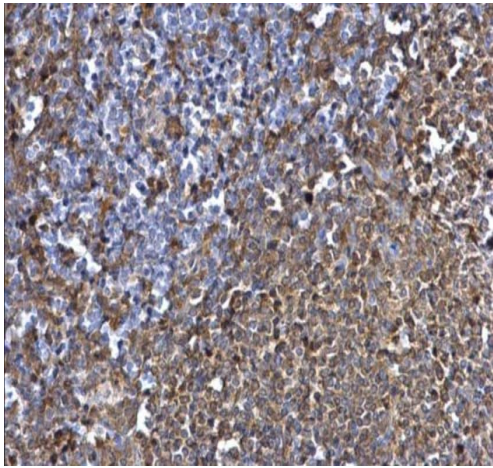
Anti-Syk antibody (ab155187) at 1/2000 dilution + A431 (human epidermoid carcinoma cell line) whole cell lysate at 30 µg

Secondary

HRP-conjugated anti-rabbit IgG antibody

Predicted band size: 72 kDa

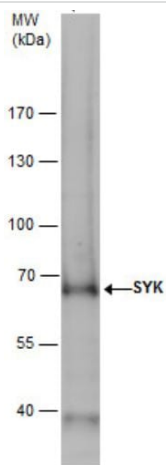
7.5% SDS-PAGE



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Syk antibody (ab155187)

Immunohistochemical analysis of paraffin-embedded rat spleen tissue staining Syk at cytoplasm with ab155187 at 1/500 dilution.

Antigen Retrieval: EDTA based buffer, pH 8.0, 15min.



Western blot - Anti-Syk antibody (ab155187)

Anti-Syk antibody (ab155187) at 1/1000 dilution + Mouse spleen tissue at 50 µg

Secondary

HRP-conjugated anti-rabbit IgG antibody

Predicted band size: 72 kDa

7.5% SDS-PAGE

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