abcam

ab169865

# Anti-Syk (phospho Y323) antibody [EP573-4] - BSA and Azide free

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | Constituents: PBS |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Carrier free** | Yes |
| **Clone number** | EP573-4 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 1.044 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |

| | |
|---|---|
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Synthetic peptide |
| **Dilution info** | - |
| **Notes** | - |

## Dot

### Tested

| | |
|---|---|
| **Species** | Synthetic peptide |
| **Dilution info** | - |
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## WB

### Expected

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Synthetic peptide |
| **Dilution info** | - |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Synthetic peptide |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | - |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Synthetic peptide |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information SYK pY323

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|---|---|
| **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 (PubMed:12387735, PubMed:33782605). 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 DEPTOR, VAV1, PLCG1, PI-3-kinase, LCP2 and BLNK (PubMed:12456653, PubMed:15388330, PubMed:34634301, PubMed:8657103). 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 (PubMed:12456653). 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 also plays a role in T-cell receptor signaling. Also plays 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 (By similarity). Required for the stimulation of neutrophil phagocytosis by IL15 (PubMed:15123770). Also mediates the activation of dendritic cells by cell necrosis stimuli. Also involved in mast cells activation. Involved in interleukin-3/IL3-mediated signaling pathway in basophils (By similarity). Also functions downstream of receptors mediating cell adhesion (PubMed:12387735). Relays for instance, integrin-mediated neutrophils and macrophages activation and P-selectin receptor/SELPG-mediated recruitment of leukocytes to inflammatory loci. Also plays 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. Together with CEACAM20, enhances production of the cytokine CXCL8/IL-8 via the NFKB pathway and may thus have a role in the intestinal immune response (By similarity).

## Storage

| | |
|---|---|
| **Shipped at conditions** | Blue Ice |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | +4°C |
| **Storage information** | Do Not Freeze |

## Notes

ab62338 is the carrier-free version of ab169865.

**Patented technology**

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

**What are the advantages of a recombinant monoclonal antibody?**

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

**Conjugation ready**

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

**Compatibility**

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | Spleen tyrosine kinase commonly known as Syk is a non-receptor tyrosine kinase with a mass of about 72 kDa. It serves as a critical signaling molecule in immune cells. Syk is expressed in various cell types such as B cells T cells monocytes and others involved in the immune response. It initiates signaling cascades by binding to immunoreceptor tyrosine-based activation motifs (ITAMs). Alternate forms include phosphorylated Syk often referred to as p-Syk which activates various downstream signaling pathways. |
| **Biological function summary** | Syk plays a role in transmitting signals from the cell surface to the interior of the cell facilitating various cellular activities. It is a part of signal transduction complexes and functions in the regulation of immune cell activation differentiation and survival. It affects processes like Fc receptor signaling in macrophages and neutrophils impacting immune responses and inflammation. The phospho-Syk form influences the strength and duration of signaling affecting various cellular functions. |
| **Pathways** | Syk is significant in the B-cell receptor (BCR) signaling pathway and Fc receptor signaling pathway. Within these pathways Syk interacts with proteins like Lyn and Fyn which are other kinases involved in BCR signal transduction. Syk phosphorylation noted as p-Syk plays a part in activating downstream molecules such as phospholipase C gamma (PLCγ) to mediate cellular responses to external |

| | |
|---|---|
| | stimuli. The critical role of Syk in these pathways influences both adaptive and innate immune responses. |
| **Associated diseases and disorders** | Syk correlates with conditions like rheumatoid arthritis and certain B-cell lymphomas. In rheumatoid arthritis aberrant Syk signaling contributes to the inflammation and joint destruction characteristic of the disease. Syk's role in B-cell antigen receptor signaling links it to B-cell lymphomas where dysregulation in signaling pathways leads to uncontrolled proliferation of malignant B cells. The involvement of Syk in both disease contexts suggests its potential as a therapeutic target along with pathways related to proteins like BLNK and PLCγ in these disorders. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

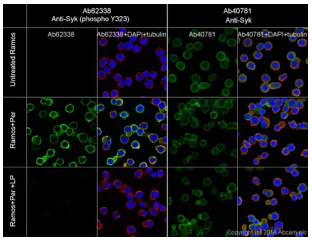
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

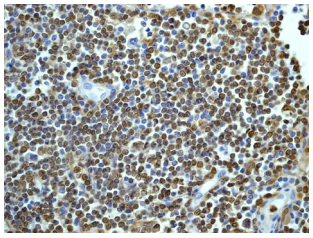
## 4 product images



### Immunocytochemistry/ Immunofluorescence - Anti-Syk (phospho Y323) antibody [EP573-4] - BSA and Azide free (ab169865)

Syk (phospho Y323) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Syk (phospho Y323) antibody

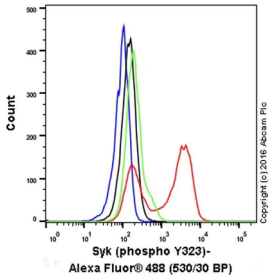
Immunocytochemistry/Immunofluorescence analysis of Ramos+/-pervanadate(1mM, 30min), Ramos + pervanadate(1mM, 30min) + LP labelling Syk (phospho Y323) with ab62338 at a dilution of 1:1000 dilution (2.53ug/ml). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. ab150077 Goat anti rabbit IgG(Alexa Fluor® 488) (1:1000) was used as the secondary antibody. The cells were co-stained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Nuclei counterstained with DAPI (blue). Control: PBS instead of the primary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab62338).



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Syk (phospho Y323) antibody [EP573-4] - BSA and Azide free (ab169865)

Syk (phospho Y323) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Syk (phospho Y323) antibody

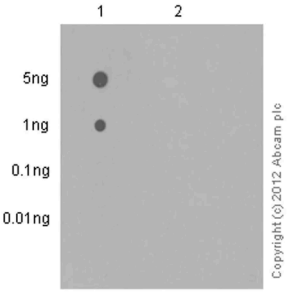
This data was developed using the same antibody clone in a different buffer formulation (ab62338).
Immunohistochemical analysis of paraffin-embedded human lymph node tissue sections labeling Syk with purified ab62338 at 1/100 dilution. ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Sections were counterstained with Hematoxylin. Antigen retrieval was heat mediated antigen retrieval using citrate buffer, pH 6.0).




## Flow Cytometry (Intracellular) - Anti-Syk (phospho Y323) antibody [EP573-4] - BSA and Azide free (ab169865)

Syk (phospho Y323) Flow Cytometry (Intracellular) staining using rabbit Anti-Syk (phospho Y323) antibody

Intracellular Flow Cytometry analysis of U937 (human monocyte histiocytic lymphoma) treated (red)/untreated (green) with 1mM pervanadate for 30 minutes with purified ab62338 at 1/2500 dilution. The secondary antibody was Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution. A Rabbit monoclonal IgG (Black) was used as the isotype control and cells without incubation with primary antibody and secondary antibody (Blue) were used as unlabeled control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab62338).




## Dot Blot - Anti-Syk (phospho Y323) antibody [EP573-4] - BSA and Azide free (ab169865)

Dot blot analysis of Sky (pY323) peptide (Lane 1), Syk (unmodified) peptide (Lane 2), labelling Syk (pY323) with ab62338 at a dilution of 1/1000. Peroxidase conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody at a dilution of 1/2500.
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 10 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab62338).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.