

Bi-Phospho-Syk(Y525/526) Antibody Blocking peptide
Synthetic peptide
Catalog # BP3271a**Specification**

Bi-Phospho-Syk(Y525/526) Antibody Blocking peptide - Product InformationPrimary Accession [P43405](#)**Bi-Phospho-Syk(Y525/526) Antibody Blocking peptide - Additional Information****Gene ID** 6850**Other Names**

Tyrosine-protein kinase SYK, Spleen tyrosine kinase, p72-Syk, SYK

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP3271a](#) was selected from the region of human Phospho-Syk-Y525/526. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Bi-Phospho-Syk(Y525/526) Antibody Blocking peptide - Protein Information**Name** SYK**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](http://www.uniprot.org/citations/12387735), PubMed:[33782605](http://www.uniprot.org/citations/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:[a](#)

[12456653](http://www.uniprot.org/citations/12456653), PubMed:<[15388330](http://www.uniprot.org/citations/15388330)>, PubMed:<[8657103](http://www.uniprot.org/citations/8657103)>, PubMed:<[34634301](http://www.uniprot.org/citations/34634301)>). 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](http://www.uniprot.org/citations/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. 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 (By similarity). Required for the stimulation of neutrophil phagocytosis by IL15 (PubMed:<[15123770](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/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).

Cellular Location

Cell membrane. Cytoplasm, cytosol

Tissue Location

Widely expressed in hematopoietic cells (at protein level) (PubMed:8163536). Expressed in neutrophils (at protein level) (PubMed:15123770). Within the B-cell compartment, expressed from pro- and pre-B cells to plasma cells (PubMed:8163536)

Bi-Phospho-Syk(Y525/526) Antibody Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

Bi-Phospho-Syk(Y525/526) Antibody Blocking peptide - Images

Bi-Phospho-Syk(Y525/526) Antibody Blocking peptide - Background

Syk is a positive effector of BCR-stimulated responses. This protein couples the B-cell antigen receptor (BCR) to the mobilization of calcium ion either through a phosphoinositide 3-kinase-dependent pathway, when not phosphorylated on tyrosines of the linker region, or through a phospholipase C-gamma-dependent pathway, when phosphorylated on Tyr-342 and Tyr-346. Thus the differential phosphorylation of Syk can determine the pathway by which BCR is coupled to the

regulation of intracellular calcium ion.

Bi-Phospho-Syk(Y525/526) Antibody Blocking peptide - References

Steinberg, M., et al., Blood 104(3):760-767 (2004).Wang, S., et al., World J. Gastroenterol. 10(12):1815-1818 (2004).Hayes, M.J., et al., Mol. Immunol. 41(4):457-468 (2004).Arndt, P.G., et al., J. Biol. Chem. 279(12):10883-10891 (2004).Ding, Y.B., et al., Zhonghua Yi Xue Za Zhi 84(4):290-293 (2004).