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Anti-Phospho-Syk (Y323) Rabbit Monoclonal Antibody

Catalog # ABO16740

Product Information

Application	WB, IHC
Primary Accession	P43405
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid
Description	Anti-Phospho-Syk (Y323) Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF applications. This antibody reacts with Human.

Additional Information

Gene ID	6850
Other Names	Tyrosine-protein kinase SYK, 2.7.10.2 {ECO:0000255|PROSITE-ProRule:PRU10028, ECO:0000269|PubMed:33782605, ECO:0000269|PubMed:34634301}, Spleen tyrosine kinase, p72-Syk, SYK
Calculated MW	72066
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: 32S11
Immunogen	A synthesized peptide derived from human Phospho-Syk (Y323)
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

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, 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 (PubMed:12387735, PubMed:9698567). The association with the receptor can also be indirect and mediated by adapter proteins containing ITAM or partial hemITAM domains (PubMed:20154219). 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, MYO1F, VAV1, PLCG1, PI-3-kinase, LCP2 and BLNK (PubMed:8657103, PubMed:12456653, PubMed:15388330, PubMed:18369315, PubMed:34634301, PubMed:39694035, 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 (PubMed:12456653, PubMed:18369315). It also phosphorylates and activates PLCG1 and the PKC signaling pathway (PubMed:8657103). It also phosphorylates BTK and regulates its activity in B-cell antigen receptor (BCR)-coupled signaling (By similarity). 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 (PubMed:20154219). 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). Acts as a positive regulator of cGAS-STING signaling by mediating phosphorylation of MYO1F, thereby promoting plasma membrane localization and activation of CGAS (PubMed:39694035).

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)

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