

ARG63105 anti-Syk antibody [SYK-01]

Package: 100 µg, 50 µg
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [SYK-01] recognizes Syk
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, IP, WB
Specificity	The clone SYK-01 reacts with protein tyrosine kinase p72Syk (Syk; Syk family tyrosine-specific phosphotransferase), which is required for the transduction of signals through the B cell antigen receptor (BCR) and the high affinity IgE receptor (FcεRI).
Host	Mouse
Clonality	Monoclonal
Clone	SYK-01
Isotype	IgG1
Target Name	Syk
Species	Human
Immunogen	Recombinant fragment (aa 5-360) of human Syk.
Conjugation	Un-conjugated
Alternate Names	Tyrosine-protein kinase SYK; p72-Syk; Spleen tyrosine kinase; EC 2.7.10.2

Application Instructions

Application table	Application	Dilution
	ICC/IF	Assay-dependent
	IHC-P	5 µg/ml
	IP	Assay-dependent
	WB	1 - 2 µg/ml
Application Note	<p>WB: Sample preparation: Resuspend approx. 50 mil. cells in 1 ml cold lysis buffer (1% laurylmaltoside in 20 mM Tris/Cl, 100 mM NaCl pH 8.2, 50 mM NaF including Protease inhibitor Cocktail). Incubate 60 min on ice. Centrifuge to remove cell debris. Mix lysate (1:1) with non-reducing SDS-PAGE sample buffer. SDS-PAGE (12% separating gel).</p> <p>* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.</p>	
Positive Control	<p>WB: Positive control: RBL (Rat basophilic leukemia cell line), A431, Ramos, U-937 and Jurkat. Negative control: HeLa</p> <p>IHC-P: Positive tissue: tonsil B cells</p>	

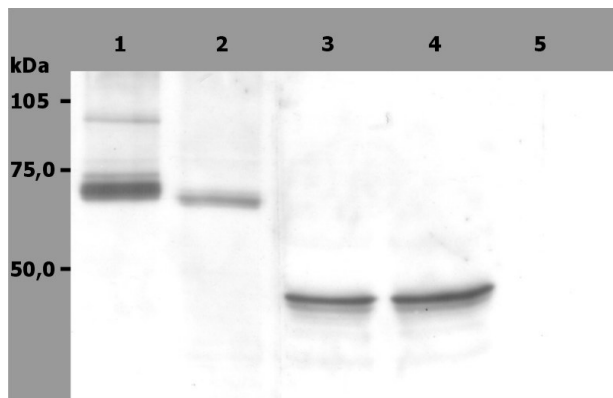
Properties

Form	Liquid
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Purification	Purified from hybridoma culture supernatant by protein-A affinity chromatography.
Purity	> 95% (by SDS-PAGE)
Buffer	PBS (pH 7.4) and 15 mM Sodium azide
Preservative	15 mM Sodium azide
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

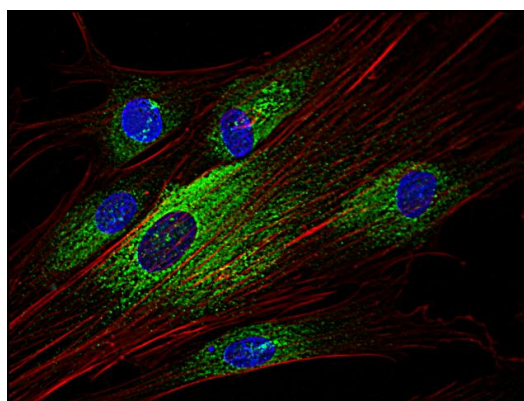
Bioinformation

Gene Symbol	SYK
Gene Full Name	spleen tyrosine kinase
Background	Syk is a cytoplasmic protein tyrosine kinase that translocates to the plasma membrane upon B cell antigen receptor (BCR) or the high-affinity IgE receptor (FcεRI) triggering, and phosphorylates downstream adaptor proteins, thereby providing docking sites for initiation of subsequent signaling pathways, such as calcium mobilization, cytoskeleton remodeling, or transcription of specific genes. Syk binds to the receptor assemblies through interactions of its pair of SH2 domains with ITAM motives of the receptor, which have been phosphorylated by Src-family kinases. These kinases also help to activate Syk by phosphorylation of its activation loop.
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. [UniProt]
Research Area	Cell Biology and Cellular Response antibody; Immune System antibody; Signaling Transduction antibody; Syk / Zap70 Pathway antibody
Calculated Mw	72 kDa
PTM	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.



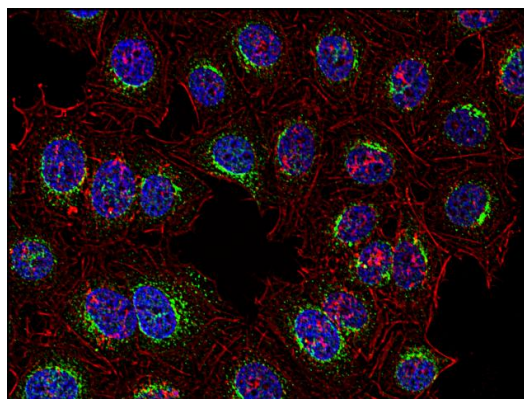
ARG63105 anti-Syk antibody [SYK-01] WB image

Western blot: Ramos cell lysate stained with (1, 2) ARG63105 anti-Syk antibody [SYK-01], (3, 4) anti-human Cytokeratin 18 antibody [DC-10], and (5) Negative control.



ARG63105 anti-Syk antibody [SYK-01] ICC/IF image

Immunofluorescence: Human primary fibroblasts stained with ARG63105 anti-Syk antibody [SYK-01] (green). Actin cytoskeleton was stained with phalloidin (red) and cell nuclei stained with DAPI (blue).



ARG63105 anti-Syk antibody [SYK-01] ICC/IF image

Immunofluorescence: HeLa cells stained with ARG63105 anti-Syk antibody [SYK-01] (green). Actin cytoskeleton was stained with phalloidin (red) and cell nuclei stained with DAPI (blue).