

PE anti-Syk Phospho (Tyr296) Recombinant Antibody

Catalog# / Size	949303 / 25 tests 949304 / 100 tests
Clone	QA20B02
Regulatory Status	RUO
Other Names	Spleen Associated Tyrosine Kinase, Spleen Tyrosine Kinase, Tyrosine-Protein Kinase Syk, IMD82
Isotype	Mouse IgG2b, κ
Description	Syk is a non-receptor tyrosine kinase that is a member of the Syk family of tyrosine kinases, with broad expression in hematopoietic cells. Upon immune receptor engagement, phosphorylated ITAM motifs within the cytosolic region of the activated receptor become phosphorylated and recruit Syk to the activated receptor via SH2 domains. ITAM-bound Syk is catalytically active, transmitting signals to multiple downstream signaling partners that drives processes such as phagocytosis, proliferation, and differentiation.

Recent evidence also suggests a role for Syk in non-immune cells. Elevated Syk activation is associated with B-cell malignancies, rheumatoid arthritis, and Alzheimer's disease, and multiple Syk inhibitors are being developed in clinical trials. Syk activity and function are both regulated by tyrosine phosphorylation at multiple sites. Tyr323 and Tyr352 phosphorylation facilitate binding to downstream effectors, and phosphorylation of Tyr525/Tyr526 in the activation loop is required for kinase activity. Tyr296 phosphorylation has been reported in lung epithelial cancer cells, and has been shown to occur as part of an autophosphorylation mechanism *in vitro*. This site is embedded within a larger N-terminal linker region that is required for nuclear localization in breast cancer cells. Despite rapid autophosphorylation of this site upon Syk activation, it is not required for Syk activity.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Recombinant
Host Species	Mouse
Immunogen	Synthetic peptide corresponding to Syk phosphorylated at tyrosine 296
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with PE under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is 5 μ L per million cells in 100 μ L staining volume or 5 μ L per 100 μ L of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Application Notes	

When Syk is phosphorylated at tyrosine 296, the protein may display a slightly higher observed molecular weight by western blot.

RRID AB_3716900 (BioLegend Cat. No. 949303)
AB_3716900 (BioLegend Cat. No. 949304)

Antigen Details

Structure	Syk isoform A is a 635 amino acid protein with a predicted molecular weight of 72 kD. Syk isoform B is a 612 amino acid protein with a predicted molecular weight of 69.5 kD. Syk isoform B lacks the Tyr296 site.
Distribution	Plasma membrane
Function	B-cell receptor, integrin signaling
Biology Area	Cell Biology, Immunology, Signal Transduction
Molecular Family	Protein Kinases/Phosphatase
Antigen References	1. Mansueto MS, <i>et al.</i> 2019. <i>J Biol Chem.</i> 294:7658-7668. 2. Geahlen RL. 2009. <i>Biochim Biophys Acta.</i> 1793:1115-27. 3. Taniguchi T, <i>et al.</i> 1991. <i>J Biol Chem.</i> 266:15790-6. 4. Toyabe S, <i>et al.</i> 2001. <i>Immunology.</i> 103:164-71.

Gene ID [6850](#)

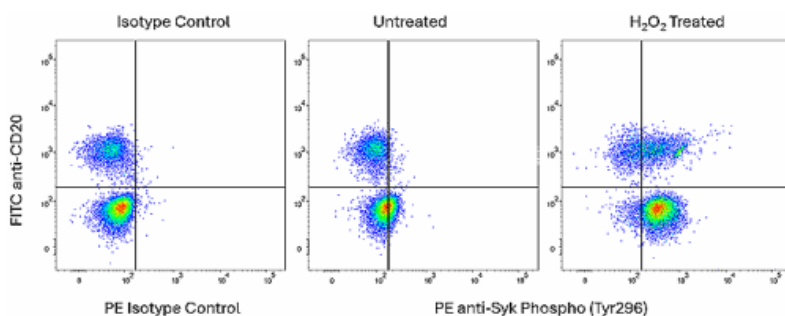
Related Protocols

- [Intracellular Flow Cytometry Staining Protocol](#)

Other Formats

Purified anti-Syk Phospho (Tyr296) Recombinant Antibody, PE anti-Syk Phospho (Tyr296) Recombinant Antibody

Product Data



Human PBMCs untreated (negative control, middle panel) or treated with H₂O₂ (positive control, right panel) were fixed and permeabilized using True Phos™ Perm Buffer (Cat No. 425401) and then intracellularly stained with PE anti-Syk Phospho (Tyr296) Recombinant (clone QA20B02) (middle and right panels) or PE mouse IgG2b, κ Isotype Control (left panel, representative for untreated and treated PBMC) (Cat. No. 400313). Cells were co-stained with FITC anti-CD20 (cytoplasmic) (Cat. No. 340512).

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