abcam

ab278640

FITC Anti-Lyn (phospho Y507) antibody [LynY507-5B6]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	FITC
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS, 0.2% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human LYN pY507. The exact immunogen used to generate this antibody is proprietary information. Database link P07948
Clone number	LynY507-5B6
Purification technique	Affinity purification Protein A/G
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	5 µL for 10^6 Cells
Notes	-

Target data

See full target information LYN pY507

Function

Non-receptor tyrosine-protein kinase that transmits signals from cell surface receptors and plays an important role in the regulation of innate and adaptive immune responses, hematopoiesis, responses to growth factors and cytokines, integrin signaling, but also responses to DNA damage and genotoxic agents. Functions primarily as negative regulator, but can also function as activator, depending on the context. Required for the initiation of the B-cell response, but also for its down-regulation and termination. Plays an important role in the regulation of B-cell differentiation, proliferation, survival and apoptosis, and is important for immune self-tolerance. Acts downstream of several immune receptors, including the B-cell receptor, CD79A, CD79B, CD5, CD19, CD22, FCER1, FCGR2, FCGR1A, TLR2 and TLR4. Plays a role in the inflammatory response to bacterial lipopolysaccharide. Mediates the responses to cytokines and growth factors in hematopoietic progenitors, platelets, erythrocytes, and in mature myeloid cells, such as dendritic cells, neutrophils and eosinophils. Acts downstream of EPOR, KIT, MPL, the chemokine receptor CXCR4, as well as the receptors for IL3, IL5 and CSF2. Plays an important role in integrin signaling. Regulates cell proliferation, survival, differentiation, migration, adhesion, degranulation, and cytokine release. Involved in the regulation of endothelial activation, neutrophil adhesion and transendothelial migration (PubMed:36932076). Down-regulates signaling pathways by phosphorylation of immunoreceptor tyrosine-based inhibitory motifs (ITIM), that then serve as binding sites for phosphatases, such as PTPN6/SHP-1, PTPN11/SHP-2 and INPP5D/SHIP-1, that modulate signaling by dephosphorylation of kinases and their substrates. Phosphorylates LIME1 in response to CD22 activation. Phosphorylates BTK, CBL, CD5, CD19, CD72, CD79A, CD79B, CSF2RB, DOK1, HCLS1, LILRB3/PIR-B, MS4A2/FCER1B, SYK and TEC. Promotes phosphorylation of SIRPA, PTPN6/SHP-1, PTPN11/SHP-2 and INPP5D/SHIP-1. Mediates phosphorylation of the BCR-ABL fusion protein. Required for rapid phosphorylation of FER in response to FCER1 activation. Mediates KIT phosphorylation. Acts as an effector of EPOR (erythropoietin receptor) in controlling KIT expression and may play a role in erythroid differentiation during the switch between proliferation and maturation. Depending on the context, activates or inhibits several signaling cascades. Regulates phosphatidylinositol 3-kinase activity and AKT1 activation. Regulates activation of the MAP kinase signaling cascade, including activation of MAP2K1/MEK1, MAPK1/ERK2, MAPK3/ERK1, MAPK8/JNK1 and MAPK9/JNK2. Mediates activation of STAT5A and/or STAT5B. Phosphorylates LPXN on 'Tyr-72'. Kinase activity facilitates TLR4-TLR6 heterodimerization and signal initiation. Phosphorylates SCIMP on 'Tyr-107'; this enhances binding of SCIMP to TLR4, promoting the phosphorylation of TLR4, and a selective cytokine response to lipopolysaccharide in macrophages (By similarity). Phosphorylates CLNK (By similarity). Phosphorylates BCAR1/CAS and NEDD9/HEF1 (PubMed:9020138).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Store in the dark

Notes

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.

Supplementary info

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

Activity summary	Lyn kinase also known as p56 or Lyn protein is a member of the Src family of protein tyrosine kinases. It possesses a molecular weight of approximately 56 kDa. Lyn is mainly expressed in hematopoietic cells such as B-lymphocytes mast cells and myeloid cells. It plays a critical role in the signaling pathways involving these cells. Lyn is located on the inner surface of the plasma membrane and requires lipid modification for membrane association. Additionally it is present in neuronal tissues and other non-immune cell types reflecting a broader role in cellular signal transduction.
Biological function summary	As a regulator in signal transduction Lyn kinase is involved in the formation of protein complexes that modulate cell activation and proliferation. It participates in the phosphorylation of downstream substrates which leads to the initiation of various cellular responses. Lyn modulates pathways involving inflammation and immune responses impacting the development and function of immune cells. It is important for balancing activation and inhibition signals in the immune system ensuring a controlled immune response.
Pathways	Lyn kinase interacts with the B-cell receptor (BCR) signaling pathway and the Fc epsilon RI signaling pathway in mast cells. It associates with other Src family kinases like Fyn and Lck to regulate BCR signaling which influences B-cell development and differentiation. Lyn also acts upstream of pathways that control

	the release of inflammatory mediators. Through its role in these pathways Lyn indirectly impacts downstream processes and affects cellular communication and immune system homeostasis.
Associated diseases and disorders	Lyn dysfunction has implications for conditions like chronic myeloid leukemia and systemic lupus erythematosus. Abnormal Lyn activity alters signal transduction leading to unregulated cell proliferation and immune dysregulation. In chronic myeloid leukemia Lyn interacts with the BCR/ABL fusion protein contributing to the malignant transformation of hematopoietic cells. In systemic lupus erythematosus Lyn regulates signaling pathways that prevent autoimmunity; imbalances can lead to an excessive immune response. These connections highlight Lyn's importance in both cell regulation and its involvement in pathological states.

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

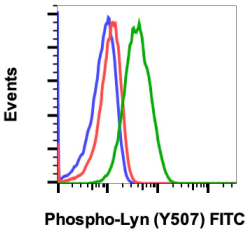
We do not recommend this combination. It is not covered by our product promise.

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.

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1 product image



Flow Cytometry - FITC Anti-Lyn (phospho Y507) antibody [LynY507-5B6] (ab278640)

Lyn (phospho Y507) Flow Cytometry staining using rabbit Anti-Lyn (phospho Y507) antibody

Flow cytometric analysis of Jurkat cells untreated and unstained as negative control (blue) or untreated (red) or treated with IFNa + IL-4 + pervanadate (green) and stained using ab278640.

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