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LYN Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1097a

Product Information

Application	WB, E
Primary Accession	P07948
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2H8D7
Isotype	IgG2b
Calculated MW	58574
Description	Lyn (also known as p53/56 Lyn) is a membrane-associated protein tyrosine kinase (PTK) mostly expressed in hemopoietic cells which is important in cellular signaling. It contains an SH2 and SH3 domain and has been found to be cleaved after activation of caspases in apoptosis. A member of the Src family of PTKs, there are two known isoforms for Lyn which plays an indispensable role in the Fc epsilon RI (Fcer1) and the B-cell IgM receptor signaling pathway and is essential for Syk activation and Lat phosphorylation after Fcer1 aggregation and can also phosphor-ylate Tec on multiple residues. Lyn can also be regulated by IL-2 and IL-3.Lyn is a member of the src family of non-receptor protein tyrosine kinases that is predominantly expressed in haematopoietic tissues. Like all members of the src family, lyn is thought to participate in signal transduction from cell surface receptors that lack intrinsic tyrosine kinase activity. It is associated with a number of cell surface receptors including the B cell antigen receptor and immunoglobulin E receptor (FceRI).
Immunogen	Purified recombinant fragment of LYN expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	4067
Other Names	Tyrosine-protein kinase Lyn, 2.7.10.2, Lck/Yes-related novel protein tyrosine kinase, V-yes-1 Yamaguchi sarcoma viral related oncogene homolog, p53Lyn, p56Lyn, LYN, JTK8
Dilution	WB~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	LYN Antibody is for research use only and not for use in diagnostic or

therapeutic procedures.

Protein Information

Name	LYN
Synonyms	JTK8
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).
Cellular Location	Cell membrane. Nucleus. Cytoplasm. Cytoplasm, perinuclear region. Golgi apparatus. Membrane; Lipid- anchor. Note=Accumulates in the nucleus by inhibition of CRM1-mediated nuclear export. Nuclear accumulation is increased by inhibition of its kinase activity. The trafficking from the Golgi apparatus to the plasma membrane occurs in a kinase domain-dependent but kinase activity independent manner and is mediated by exocytic vesicular

	transport. Detected on plasma membrane lipid rafts
Tissue Location	Detected in monocytes (at protein level). Detected in placenta, and in fetal brain, lung, liver and kidney. Widely expressed in a variety of organs, tissues, and cell types such as epidermoid, hematopoietic, and neuronal cells. Expressed in primary neuroblastoma tumors.

References

1. Sakaguchi, A.Y.,et al.Genet. 34: 175. 2. Hibbs, M.L.,et al.Biol. 29: 397-400. 3. Williams, J.C.,et al.Trends Biochem. Sci. 23: 179-184.

Images

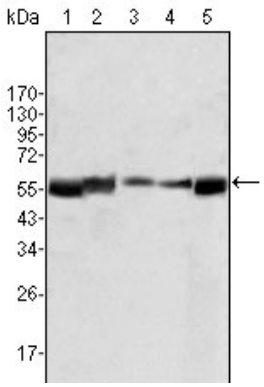


Figure 1: Western blot analysis using LYN mouse mAb agains HL60 (1), L540 (2), SLLP-M2 (3), SEM (4) and Ramos (5) cell lysate.

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