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FYN Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7709A

Product Information

Application	WB, FC, IHC-P, E
Primary Accession	P06241
Other Accession	Q62844, P39688, Q05876, A0JNB0
Reactivity	Human, Mouse
Predicted	Bovine, Chicken, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	60762
Antigen Region	13-43

Additional Information

Gene ID	2534
Other Names	Tyrosine-protein kinase Fyn, Proto-oncogene Syn, Proto-oncogene c-Fyn, Src-like kinase, SLK, p59-Fyn, FYN
Target/Specificity	This FYN antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 13-43 amino acids from the N-terminal region of human FYN.
Dilution	WB~~1:1000 FC~~1:10~50 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	FYN Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FYN
Function	Non-receptor tyrosine-protein kinase that plays a role in many biological processes including regulation of cell growth and survival, cell adhesion,

integrin-mediated signaling, cytoskeletal remodeling, cell motility, immune response and axon guidance (PubMed:11536198, PubMed:15489916, PubMed:15557120, PubMed:16387660, PubMed:20100835, PubMed:7568038, PubMed:7822789). Inactive FYN is phosphorylated on its C-terminal tail within the catalytic domain (PubMed:15489916). Following activation by PKA, the protein subsequently associates with PTK2/FAK1, allowing PTK2/FAK1 phosphorylation, activation and targeting to focal adhesions (PubMed:15489916). Involved in the regulation of cell adhesion and motility through phosphorylation of CTNNB1 (beta-catenin) and CTNND1 (delta-catenin) (PubMed:17194753). Regulates cytoskeletal remodeling by phosphorylating several proteins including the actin regulator WAS and the microtubule-associated proteins MAP2 and MAPT (PubMed:14707117, PubMed:15536091). Promotes cell survival by phosphorylating AGAP2/PIKE- A and preventing its apoptotic cleavage (PubMed:16841086). Participates in signal transduction pathways that regulate the integrity of the glomerular slit diaphragm (an essential part of the glomerular filter of the kidney) by phosphorylating several slit diaphragm components including NPHS1, KIRREL1 and TRPC6 (PubMed:14761972, PubMed:18258597, PubMed:19179337). Plays a role in neural processes by phosphorylating DPYSL2, a multifunctional adapter protein within the central nervous system, ARHGAP32, a regulator for Rho family GTPases implicated in various neural functions, and SNCA, a small pre-synaptic protein (PubMed:11162638, PubMed:12788081, PubMed:19652227). Involved in reelin signaling by mediating phosphorylation of DAB1 following reelin (RELN)- binding to its receptor (By similarity). Participates in the downstream signaling pathways that lead to T-cell differentiation and proliferation following T-cell receptor (TCR) stimulation (PubMed:22080863). Phosphorylates PTK2B/PYK2 in response to T-cell receptor activation (PubMed:20028775). Also participates in negative feedback regulation of TCR signaling through phosphorylation of PAG1 and PDCD1 (PubMed:18056706, PubMed:32184441). Phosphorylation of PAG1 promotes interaction between PAG1 and CSK and recruitment of CSK to lipid rafts (PubMed:18056706). Phosphorylation of PDCD1 leads to the recruitment of PTPN11/SHP-2 that mediates dephosphorylation of key TCR proximal signaling molecules (PubMed:32184441). CSK maintains LCK and FYN in an inactive form (By similarity). Promotes CD28-induced phosphorylation of VAV1 (PubMed:11005864). In mast cells, phosphorylates CLNK after activation of immunoglobulin epsilon receptor signaling (By similarity). Can also promote CD244-mediated NK cell activation (PubMed:15713798).

Cellular Location

Cytoplasm. Nucleus Cell membrane. Perikaryon {ECO:0000250|UniProtKB:Q62844} Note=Present and active in lipid rafts (PubMed:12218089) Palmitoylation is crucial for proper trafficking (PubMed:8206991)

Tissue Location

Isoform 1 is highly expressed in the brain. Isoform 2 is expressed in cells of hemopoietic lineages, especially T- lymphocytes.

Background

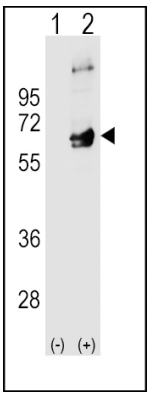
FYN is a member of the protein-tyrosine kinase oncogene family. It encodes a membrane-associated tyrosine kinase that has been implicated in the control of cell growth. The protein associates with the p85 subunit of phosphatidylinositol 3-kinase and interacts with the fyn-binding protein.

References

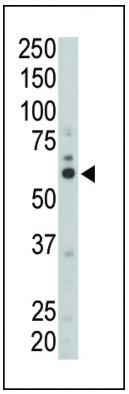
Taniguchi, S., et al., Biochem. Biophys. Res. Commun. 306(1):151-155 (2003). Chan, B., et al., Nat. Cell Biol. 5(2):155-160 (2003). Goldsmith, J.F., et al., Biochem. Biophys. Res. Commun. 298(4):501-504 (2002). Freund,

C., et al., EMBO J. 21(22):5985-5995 (2002). Parravicini, V., et al., Nat. Immunol. 3(8):741-748 (2002).

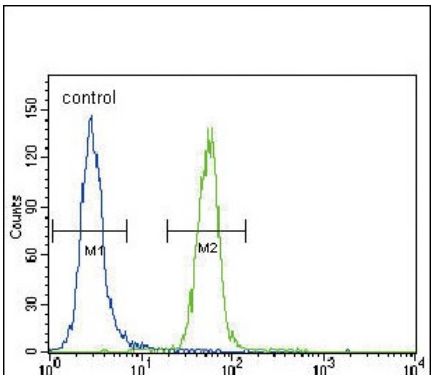
Images



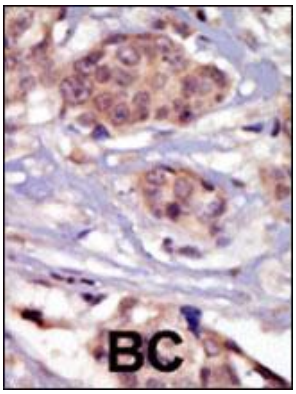
Western blot analysis of FYN (arrow) using rabbit polyclonal FYN Antibody (N-term) (Cat. #AP7709a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the FYN gene.



Western blot analysis of anti-FYN (N-term) Pab (Cat. #AP7709a) in mouse liver tissue lysate. FYN (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



FYN Antibody (N-term) (Cat. #AP7709a) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- Overexpression of Csk-binding protein/phosphoprotein associated with glycosphingolipid-enriched microdomains

induces cluster of differentiation 59-mediated apoptosis in Jurkat cells.

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