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SYK Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1175a

Specification

SYK Antibody - Product Information

Application	**WB**
Primary Accession	O15245
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**

Description
SYK: spleen tyrosine kinase. Syk (72 kDa) is a non-receptor protein tyrosine kinase that plays an important role in immune receptor signal transduction and is implicated in endothelial cell functions, including cell growth and migration. SYK is a positive effector of BCR stimulated responses. It couples the B cell antigen receptor (BCR) to the mobilization of calcium ions either through a phosphoinositide 3 kinase dependent pathway, when not phosphorylated on tyrosines of the linker region, or through a phospholipase C gamma dependent pathway, when phosphorylated on Tyr 342 and Tyr 346. Thus the differential phosphorylation of SYK can determine the pathway by which BCR is coupled to the regulation of intracellular calcium ions.

Immunogen
Purified recombinant fragment of SYK (aa296-484) expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

SYK Antibody - Additional Information

Gene ID 6580

Other Names
Solute carrier family 22 member 1, Organic cation transporter 1, hOCT1, SLC22A1, OCT1

Dilution
WB~~1/500 - 1/2000

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
SYK Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

SYK Antibody - Protein Information

Name SLC22A1 (HGNC:10963)

Synonyms OCT1

Function
Electrogenic voltage-dependent transporter that mediates the transport of a variety of organic cations such as endogenous bioactive amines, cationic drugs and xenobiotics (PubMed:9260930, PubMed:9187257, PubMed:11388889, PubMed:9655880, PubMed:11408531, PubMed:15389554, PubMed:16263091, PubMed:16272756, PubMed:16581093, PubMed:19536068, PubMed:21128598, PubMed:23680637, PubMed:24961373, PubMed:34040533, PubMed:12439218, PubMed:12719534). Functions as a pH- and Na(+)- independent, bidirectional transporter (By similarity). Cation cellular uptake or release is driven by the electrochemical potential (i.e. membrane potential and concentration gradient) and substrate selectivity (By similarity). Hydrophobicity is a major requirement for recognition in polyvalent substrates and inhibitors (By similarity). Primarily expressed at the basolateral membrane of hepatocytes and proximal tubules and involved in the uptake and disposition of cationic compounds by hepatic and renal clearance from the blood flow (By similarity). Most likely functions as an uptake carrier in enterocytes contributing to the intestinal elimination of organic cations from the systemic circulation (PubMed:16263091). Transports endogenous monoamines such as N-1-methylnicotinamide (NMN), guanidine, histamine, neurotransmitters dopamine, serotonin and adrenaline (PubMed:9260930, PubMed:24961373, PubMed:35469921, PubMed:12439218). Also transports natural polyamines such as spermidine, agmatine and putrescine at low affinity, but relatively high turnover (PubMed:21128598). Involved in the hepatic uptake of vitamin B1/thiamine, hence regulating hepatic lipid and energy metabolism (PubMed:24961373). Mediates the bidirectional transport of acetylcholine (ACh) at the apical membrane of ciliated cell in airway epithelium, thereby playing a role in luminal release of ACh from bronchial epithelium (PubMed:15817714). Transports dopaminergic neuromodulators cyclo(his-pro) and salsolinol with lower efficency (PubMed:17460754). Also capable of transporting non-amine endogenous compounds such as prostaglandin E2 (PGE2) and prostaglandin F2-alpha (PGF2-alpha) (PubMed:11907186). May contribute to the transport of cationic compounds in testes across the blood- testis-barrier (Probable). Also involved in the uptake of xenobiotics tributylmethylammonium (TBuMA), quinidine, N-methyl-quinine (NMQ), N- methyl-quinidine (NMQD) N-(4,4-azo-n-pentyl)-quinuclidine (APQ), azidoprocainamide methoiodide (AMP), N-(4,4-azo-n-pentyl)-21- deoxyajmalinium (APDA) and 4-(4-(dimethylamino)styryl)-N- methylpyridinium (ASP) (PubMed:9260930, PubMed:<a

href="http://www.uniprot.org/citations/11408531" target="_blank">11408531, PubMed:15389554, PubMed:35469921).

Cellular Location
Basolateral cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Lateral cell membrane; Multi-pass membrane protein. Basal cell membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Note=Localized to the sinusoidal/basolateral membrane of hepatocytes (By similarity). Mainly localized to the basolateral membrane of renal proximal tubular cells (By similarity). However, also identified at the apical side of proximal tubular cells (PubMed:19536068). Mainly expressed at the lateral membrane of enterocytes (PubMed:16263091). Also observed at the apical side of enterocytes (PubMed:23680637). Localized to the luminal/apical membrane of ciliated epithelial cells in bronchi (PubMed:15817714). Localized to the basal membrane of Sertoli cells (PubMed:35307651) {ECO:0000250|UniProtKB:Q63089, ECO:0000269|PubMed:15817714, ECO:0000269|PubMed:16263091, ECO:0000269|PubMed:19536068, ECO:0000269|PubMed:23680637, ECO:0000269|PubMed:35307651}

Tissue Location
Widely expressed with high level in liver (PubMed:9260930, PubMed:9187257, PubMed:11388889, PubMed:23680637). In liver, expressed around the central vein (PubMed:16263091). Expressed in kidney (PubMed:9260930, PubMed:9187257). Expressed in small intestine enterocytes (PubMed:16263091, PubMed:23680637). Localized to peritubular myoid cells, Leydig cells and moderately to the basal membrane of Sertoli cells in testes (PubMed:35307651). Expressed in tracheal and bronchial ciliated epithelium in the respiratory tract (PubMed:15817714). Also expressed in skeletal muscle, stomach, spleen, heart, placentacolon, brain, granulycytes and lympohocytes (PubMed:9260930, PubMed:9187257). [Isoform 2]: Expressed in liver and in glial cell lines. [Isoform 4]: Expressed in glial cell lines. Not expressed in liver.

SYK Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SYK Antibody - Images

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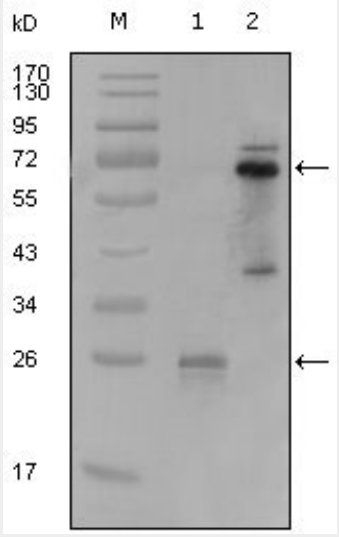

Figure 1: Western blot analysis using SYK mouse mAb against truncated SYK-His recombinant protein (1) and PMA induced THP-1 cell lysate (2).

SYK Antibody - References

1. Blood. 2006 Nov 15;108(10):3352-9 2. Int J Mol Med. 2006 Oct;18(4):547-57. 3. J Exp Med. 2006 Dec 25;203(13):2829-40.