

# Syk (N-19): sc-1077



The Power to Question

## BACKGROUND

Syk (spleen tyrosine kinase) is a 635 amino acid protein that contains one protein kinase domain and 2 SH2 domains. One of several members of the protein kinase superfamily, Syk functions as a positive effector of B cell antigen receptor (CD79)-stimulated responses, coupling CD79 with the movement of one calcium ion through one of two phospho-regulated pathways. Specifically, calcium ions travel through either a phosphoinositide 3-kinase (PI 3-kinase)-dependent pathway when Syk is not phosphorylated, or through a phospholipase C (PLC)  $\gamma$ -dependent pathway when human Syk is phosphorylated on Tyr 348 and Tyr 352. Via its ability to influence CD79 activity and to control the movement of calcium through the cell, Syk plays an important role in a variety of cellular responses, including differentiation, phagocytosis, proliferation and B cell development. Syk expression is upregulated in T cell lymphoma, suggesting a possible role for Syk in tumorigenesis. Two isoforms of Syk, designated short and long, exist due to alternative splicing events.

## CHROMOSOMAL LOCATION

Genetic locus: SYK (human) mapping to 9q22.2; Syk (mouse) mapping to 13 A5.

## SOURCE

Syk (N-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of Syk of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Syk (N-19) is available conjugated to agarose (sc-1077 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; and to phycoerythrin (sc-1077 PE, 200  $\mu$ g/ml), for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-1077 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Syk (N-19) is recommended for detection of Syk of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1  $\mu$ g per  $1 \times 10^6$  cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Syk (N-19) is also recommended for detection of Syk in additional species, including equine, canine, bovine and porcine.

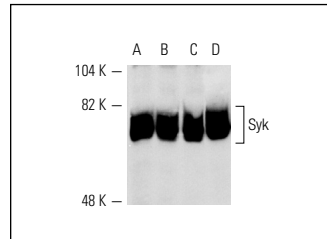
Suitable for use as control antibody for Syk siRNA (h): sc-29501, Syk siRNA (m2): sc-44328, Syk shRNA Plasmid (h): sc-29501-SH, Syk shRNA Plasmid (m2): sc-44328-SH, Syk shRNA (h) Lentiviral Particles: sc-29501-V and Syk shRNA (m2) Lentiviral Particles: sc-44328-V.

Molecular Weight of Syk: 72 kDa.

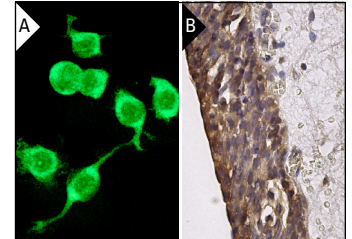
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Syk (N-19): sc-1077. Western blot analysis of Syk expression in BJAB (A), Ramos (B), NAMALWA (C) and RAW 264.7 (D) whole cell lysates.



Syk (N-19): sc-1077. Immunofluorescence staining of methanol-fixed RAW 264.7 cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of squamous epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Honda, Z., et al. 2000. Sequential requirements of the N-terminal palmitoylation site and SH2 domain of Src family kinases in the initiation and progression of Fc $\epsilon$ R1 signaling. *Mol. Cell. Biol.* 20: 1759-1771.
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- Satoh, J., et al. 2012. Phosphorylated Syk expression is enhanced in Nasu-Hakola disease brains. *Neuropathology* 32: 149-157.
- Gasparrini, F., et al. 2012. Syk-dependent regulation of Hrs phosphorylation and ubiquitination upon Fc $\epsilon$ R1 engagement: Impact on Hrs membrane/cytosol localization. *Eur. J. Immunol.* 42: 2744-2753.
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- Abbonante, V., et al. 2013. Discoidin domain receptor 1 protein is a novel modulator of megakaryocyte-collagen interactions. *J. Biol. Chem.* 288: 16738-16746.
- Krisenko, M.O., et al. 2015. Syk is recruited to stress granules and promotes their clearance through autophagy. *J. Biol. Chem.* 290: 27803-27815.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **Syk (4D10): sc-1240** or **Syk (G-2): sc-28337**, our highly recommended monoclonal alternatives to Syk (N-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Syk (4D10): sc-1240**.