Syk (4D10): sc-1240

**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) γ-dependent pathway when human Syk is phospho-rylated 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 (4D10) is a mouse monoclonal antibody raised against amino acids 313-339 of Syk of human origin.

**PRODUCT**

Each vial contains 200 µg IgG κ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Syk (4D10) is available conjugated to agarose (sc-1240 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-1240 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-1240 PE), fluorescein (sc-1240 FITC), Alexa Fluor® 488 (sc-1240 AF488) or Alexa Fluor® 647 (sc-1240 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

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**APPLICATIONS**

Syk (4D10) 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 µg per 100-500 µg 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) and flow cytometry (1 µg per 1 x 10^6 cells).


Molecular Weight of Syk: 72 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, BJAB whole cell lysate: sc-2207 or Raji whole cell lysate: sc-364236.

**STORAGE**

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

**DATA**

132 K → 90 K → 58 K → 50 K → 32 K → 23 K → 13 K → 9 K → 5 K → 3 K → 2 K → 1 K

**SELECT PRODUCT CITATIONS**


4. Ahmad, G., et al. 2014. Cbl-family ubiquitin ligases and their recruitment 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.


**RESEARCH USE**

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