**Background**

Syk (spleen tyrosine kinase) is a 635 amino acid protein that contains one protein kinase domain and two 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 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 IIb.

**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 IgG2a 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 FCM; and to either Alexa Fluor® 594 (sc-1240 AF594) or Alexa Fluor® 680 (sc-1240 AF680) or Alexa Fluor® 790 (sc-1240 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

**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 10⁶ 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.

**Select Product Citations**


**Research Use**

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

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