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Syk (4D10) Mouse mAb (Alexa Fluor® 647 Conjugate)



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: Reactivity: Sensitivity: Source/Isotype: **UniProt ID:** Entrez-Gene Id: FC-FP Н Endogenous Mouse IgG2a #P43405 6850

Product Usage Application Dilution Information Flow Cytometry (Fixed/Permeabilized) 1:50

Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the **Storage** antibody. Protect from light. Do not freeze.

Syk (4D10) Mouse mAb (Alexa Fluor® 647 Conjugate) recognizes endogenous levels of total Syk protein. Specificity / Sensitivity

Source / Purification Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Trp330 of human Syk protein.

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-**Product Description** house for direct flow cytometric analysis in human cells. This antibody is expected to exhibit the same

species cross-reactivity as the unconjugated Syk (4D10) Mouse mAb #80460.

Syk is a protein tyrosine kinase that plays an important role in intracellular signal transduction in **Background** hematopoietic cells (1-3). Syk interacts with immunoreceptor tyrosine-based activation motifs (ITAMs)

located in the cytoplasmic domains of immune receptors (4). It couples the activated immunoreceptors to downstream signaling events that mediate diverse cellular responses, including proliferation, differentiation, and phagocytosis (4). There is also evidence of a role for Syk in nonimmune cells and investigators have indicated that Syk is a potential tumor suppressor in human breast carcinomas (5). Tyr323 is a negative regulatory phosphorylation site within the SH2-kinase linker region in Syk.

Phosphorylation at Tyr323 provides a direct binding site for the TKB domain of Cbl (6,7). Tyr352 of Syk is involved in the association of PLCy1 (8). Tyr525 and Tyr526 are located in the activation loop of the Syk kinase domain; phosphorylation at Tyr525/526 of human Syk (equivalent to Tyr519/520 of mouse Syk) is essential for Syk function (9).

1. Cheng, A.M. and Chan, A.C. (1997) Curr Opin Immunol 9, 528-33. **Background References**

2. Kurosaki, T. (1997) Curr Opin Immunol 9, 309-18.

3. Chu, D.H. et al. (1998) Immunol Rev 165, 167-80.

4. Turner, M. et al. (2000) Immunol Today 21, 148-54.

5. Coopman, P.J. et al. (2000) Nature 406, 742-7.

6. Deckert, M. et al. (1998) J Biol Chem 273, 8867-74.

7. Rao, N. et al. (2001) EMBO J 20, 7085-95.

8. Law, C.L. et al. (1996) Mol Cell Biol 16, 1305-15.

9. Zhang, J. et al. (2000) J Biol Chem 275, 35442-7.

Species Reactivity Species reactivity is determined by testing in at least one approved application (e.g., western blot).

FC-FP: Flow Cytometry (Fixed/Permeabilized) **Applications Key**

Cross-Reactivity Key H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster

X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse

GP: Guinea Pig Rab: rabbit All: all species expected

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