Revision 8

Store at -20C

#2701

Phospho-Zap-70 (Tyr319)/Syk (Tyr352) Antibody

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IF-IC	H	Endogenous	70 Zap-70, 72 Syk	Rabbit	#P43403, #P43405	7535, 6850

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:10 - 1:50
Immunofluorescence (Immunocytochemistry)	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-Zap-70 (Tyr319)/Syk (Tyr352) Antibody detects endogenous levels of Zap-70 only when phosphorylated at Tyr319. It cross-reacts with endogenous levels of Syk when phosphorylated at Tyr352.

Species predicted to react based on 100% sequence homology

Mouse, Rat, Hamster, Monkey, Chicken, Bovine, Dog, Pig, Horse

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr319 of human Zap-70. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The Syk family protein tyrosine kinase Zap-70 is expressed in T and NK cells and plays a critical role in mediating T cell activation in response to T cell receptor (TCR) engagement (1). Following TCR engagement, Zap-70 is rapidly phosphorylated on several tyrosine residues through autophosphorylation and transphosphorylation by the Src family tyrosine kinase Lck (2-6). Tyrosine phosphorylation correlates with increased Zap-70 kinase activity and downstream signaling events. Expression of Zap-70 is correlated with disease progression and survival in patients with chronic lymphocytic leukemia (7,8).

Phosphorylation of Tyr319 is required for the assembly of a Zap-70-containing signaling complex that leads to the activation of the PLC-gamma1-dependent and Ras-dependent signaling cascades in antigen-stimulated T cells (5,6). The orthologous Tyr352 residue in Syk is also involved in the association with PLC-gamma1 (9).

Background References

1. Chu, D.H. et al. (1998) *Immunol Rev* 165, 167-80.
2. Iwashima, M. et al. (1994) *Science* 263, 1136-9.
3. Neumeister, E.N. et al. (1995) *Mol Cell Biol* 15, 3171-8.
4. Chan, A.C. et al. (1995) *EMBO J* 14, 2499-508.
5. Williams, B.L. et al. (1999) *EMBO J* 18, 1832-44.
6. Di Bartolo, V. et al. (1999) *J Biol Chem* 274, 6285-94.
7. Wiestner, A. et al. (2003) *Blood* 101, 4944-51.
8. Crespo, M. et al. (2003) *N Engl J Med* 348, 1764-75.
9. Law, C.L. et al. (1996) *Mol Cell Biol* 16, 1305-15.

Species Reactivity

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

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **W-S:** Simple Western™ **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

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