

#2704 Store at -20°C

Phospho-Zap-70 (Tyr493) Antibody



✓ 100 µl
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, F Endogenous	H, (M, R)	70 kDa	Rabbit**

Background: Zap-70, a Syk family protein tyrosine kinase expressed in T and NK cells, 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, presumably by two mechanisms: autophosphorylation and transphosphorylation by the Src family tyrosine kinase, Lck (2-6). Tyrosine phosphorylation of Zap-70 correlates with its increased kinase activity and downstream signaling events. In patients with chronic lymphocytic leukemia (CLL), total Zap-70 expression was shown to be correlated with disease progression and survival (7,8).

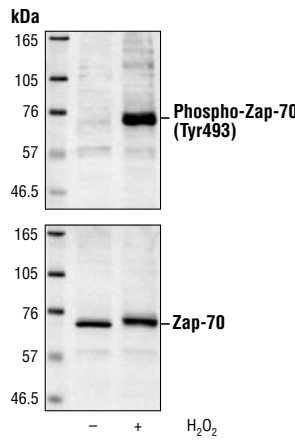
Phosphorylation of Tyr493 within the activation loop results in enzymatic activation of Zap-70 (9).

Specificity/Sensitivity: Phospho-Zap-70 (Tyr493) Antibody detects endogenous levels of Zap-70 only when phosphorylated at Tyr493.

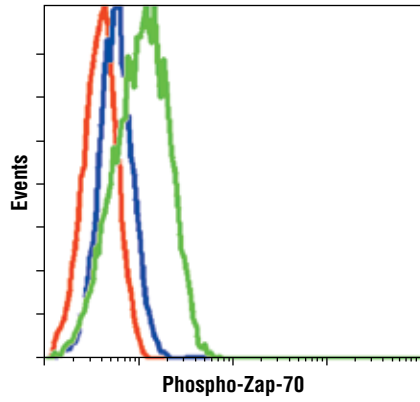
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr493 of human Zap-70. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Chu, D.H. et al. (1998) *Immunol. Rev.* 165, 167–180.
- (2) Iwashima, M. et al. (1994) *Science* 263, 1136–1139.
- (3) Neumeister, E.N. et al. (1995) *Mol. Cell. Biol.* 15, 3171–3178.
- (4) Chan, A.C. et al. (1995) *EMBO J.* 14, 2499–2508.
- (5) Williams, B.L. et al. (1999) *EMBO J.* 18, 1832–1844.
- (6) Di Bartolo, V. et al. (1999) *J. Biol. Chem.* 274, 6285–6294.
- (7) Wiestner, A. et al. (2003) *Blood* 101, 4944–4951.
- (8) Crespo, M. et al. (2003) *N. Engl. J. Med.* 348, 1764–1775.
- (9) Watts, J.D. et al. (1994) *J. Biol. Chem.* 269, 29520–29529.



Western blot analysis of extracts from Jurkat cells starved for 16 hours and treated with 2 mM H₂O₂ for 3 minutes, using Phospho-Zap-70 (Tyr493) Antibody (upper) or control Zap-70 Antibody #2702 (lower).



Flow cytometric analysis of Jurkat cells, untreated (blue) or CD3/CD28 treated (green), using Phospho-Zap-70 (Tyr493) Antibody compared to a nonspecific negative control antibody (red).

Entrez-Gene ID #7535
Swiss-Prot Acc. #P43403

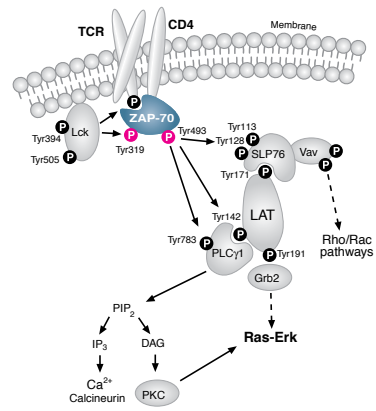
Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C.
Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
Western Blotting 1:1000
Immunoprecipitation 1:100
Flow Cytometry 1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.



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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.