

ZAP70 Phospho (pY292)

Rabbit Monoclonal Antibody | Product Data Sheet

Catalog# 2535-1

Quantity: 100ul

Clone ID: EPR1073

Species Cross-reactivity* + Human - Mouse - Rat

Applications: + WB - IHC + ICC - IP + FC

Lot #: Please refer to vial

Molecular Wt.: 70 kDa

UniProt ID: P43403

Background: ZAP70, a Syk-family protein tyrosine kinase (PTK), plays a critical role in mediating T cell signal transduction in response to T cell receptor (TCR) activation (1). TCR-mediated activation of the Src-family kinases, Lck and Fyn, results in tyrosine phosphorylation of the TCR zeta and CD3 chains. These domains serve as targets for binding of ZAP70 via its tandem SH2 domains. This binding correlates with activation of ZAP70, a critical event in T cell activation (2). Following TCR engagement, ZAP70 is phosphorylated on several tyrosine residues, presumably by two mechanisms: an autophosphorylation and a trans-phosphorylation by the Src-family tyrosine kinase, Lck (3). Heterologous trans-phosphorylation of Tyrosine 493 by Src-PTKs is required for antigen receptor-mediated activation of both the calcium and Ras pathways. In contrast however, cells expressing mutations at Tyrosine 292 or 492 demonstrate hyperactive T- and B-cell antigen receptor phenotypes. Thus, phosphorylation of ZAP-70 mediates both activation and inactivation of antigen receptor signaling (4).

Specificity: A phospho-specific peptide corresponding to residues surrounding Tyrosine 292 of human ZAP70 was used as an immunogen. This antibody only detects ZAP70 phosphorylated on Tyrosine 292.

Storage Condition and Buffer: Store at -20 °C. Buffer: Antibody buffer, sodium azide, glycerol, and BSA. Stable for 12 months from date of receipt.

Recommended Dilutions:

WB: 1:5,000 - 10,000

ICC: 1:250 - 500

FC: 1:20

Background References:

1. Chu, D.H., et al. Immunol. Rev. 165: 167
2. Isakov, N., et al. J Exp Med. 181: 375
3. Di Bartolo, V., et al. J Biol Chem. 274: 6285
4. G Kong, et al. Mol. Cell. Biol. 16(9):5026-5035, 1996

*Cross reactivity determined by western blot only.

Product QC'd by:

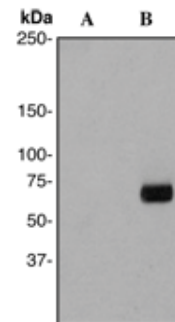


Fig 1. A. Western blot analysis on Jurkat cell lysate using anti-Phospho-ZAP70 (pY292) RabMAb (cat. #2535-1), 1:10,000 dilution. Cells were either (A) untreated (B) treated with pervanadate

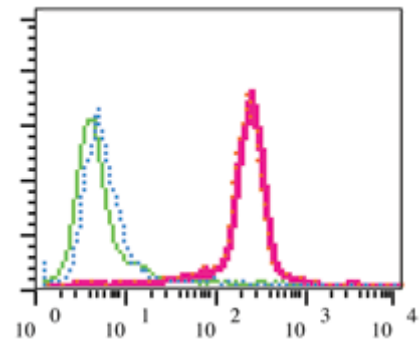


Fig 2. B. Flow cytometric analysis of permeabilized Jurkat cells, untreated (green) or pervanadate -treated (red) using anti- Cbl RabMAb (catalog # xxx), and pervanadate-treated Jurkat cells using the same antibody preincubated with phospho- ZAP70 (Tyr 292) peptide (blue) or non-phospho- ZAP70 (Tyr 292).

For research use only. Not for use in diagnostic or therapeutic applications.

This product was manufactured under U.S. Patent No. 5,675,063. For a complete list of protocols and available related products, please visit www.epitomics.com
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