

30-1342: Anti-ZAP-70 Monoclonal Antibody (Clone:ZAP-03)

Clonality :	Monoclonal
Clone Name :	ZAP-03
Application :	FACS, WB, ICC
Reactivity :	Human
Gene :	ZAP70
Gene ID :	7535
Uniprot ID :	P43403
Format :	Purified
Alternative Name :	ZAP70,SRK
Isotype :	Mouse IgG1
Immunogen Information :	Bacterially expressed fusion protein representing C-terminal part (160 amino acids) of human ZAP-70 with histidine tag

Description

The ZAP-70 (zeta-associated protein of 70 kDa) tyrosine kinase was identified as a tyrosine phosphoprotein that associates with TCR zeta subunit and undergoes tyrosine phosphorylation following TCR stimulation. ZAP-70 is a Syk family tyrosine kinase primarily expressed in T and NK cells that plays an essential role in signaling through the TCR. TCR-mediated activation of T cells is crucial to the immune response. In humans, ZAP-70 gene mutations resulting in lower ZAP-70 protein expression levels or expression of catalytically inactive ZAP-70 proteins, have been identified. ZAP-70 deficiency results in the absence of mature CD8+ T cells and the prevention of TCR-mediated activation of CD4+ T cells, and it can lead to severe combined immunodeficiency. In patients with chronic lymphocytic leukemia (B-CLL), ZAP-70 expression on B cell was shown to be correlated with disease progression and survival. ZAP-70 contains two N-terminal SH2 domains (Src homology domain 2) and a C-terminal kinase domain. During T cell activation, the binding of ZAP-70 SH2 domains to the phosphorylated zeta subunit on the activated TCR complex causes a colocalization with the Lck tyrosine kinase that phosphorylates ZAP-70 on Tyr493 in the activation loop. ZAP-70 autophosphorylates multiple tyrosines in the region between the SH2 domains and the kinase domain, including the binding sites for additional SH2-containing signaling proteins such as SLP76, LAT, Lck, PLCgamma1, Vav, Shc, Ras-GAP, and Abl. ZAP-70-mediated activation of these downstream effectors leads to the release of intracellular calcium stores, and the transcription of interleukin-2 and other genes important for an immune response.

Product Info

Amount :	0.1 mg
Purification :	Purified by protein-A affinity chromatography
Storage condition :	Store at 2-8°C. Do not freeze.

Application Note

Western Blotting *Recommended dilution:* 0,5 μ g/ml

Positive control:

HPB-ALL human peripheral blood T cell leukemia cell line

Negative control:

RAMOS human Burkitt lymphoma cell line

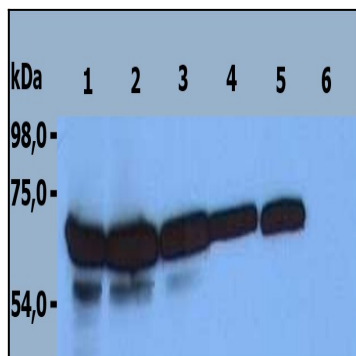


Figure 1: Western Blotting analysis (reducing conditions) of HPB-ALL peripheral blood T cell leukemia cell line. Lane 2, 3, 4: immunostaining with dilution range of anti-ZAP-70 (ZAP-03; 4 $\mu\text{g/ml}$ (1), 2 $\mu\text{g/ml}$ (2), 1 $\mu\text{g/ml}$ (3), 0.5 $\mu\text{g/ml}$ (4). Lane 5: immunostaining with anti-ZAP-70 comparative antibody. Lane 6: immunostaining with Isotype mouse IgG1 control (PPV-06;)

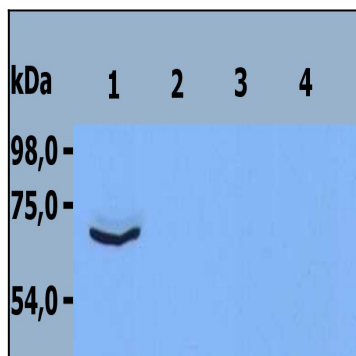


Figure 2: Western Blotting analysis (reducing conditions) of HPB-ALL peripheral blood T cell leukemia cell line (1, 3) and RAMOS human Burkitt lymphoma cell line (2, 4); Lane 2: immunostaining with anti-ZAP-70 (ZAP-03; 0.5 $\mu\text{g/ml}$) Lane 3, 4: immunostaining with Isotype mouse IgG1 control (PPV-06;)