

## 30-1295: Anti-ZAP-70 Polyclonal Antibody

<b>Clonality :</b>	Polyclonal
<b>Application :</b>	WB
<b>Reactivity :</b>	Human
<b>Gene :</b>	ZAP70
<b>Gene ID :</b>	7535
<b>Uniprot ID :</b>	P43403
<b>Format :</b>	Purified
<b>Alternative Name :</b>	ZAP70,SRK
<b>Isotype :</b>	Rabbit IgG
<b>Immunogen Information :</b>	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. 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

<b>Amount :</b>	0.1 mg
<b>Purification :</b>	Purified from rabbit serum by affinity chromatography
<b>Storage condition :</b>	Store at 2-8°C. Do not freeze.

### Application Note

Western blotting: Recommended dilution: 1-2  $\mu$ g/ml; positive control: MOLT-4 cells, reducing conditions.

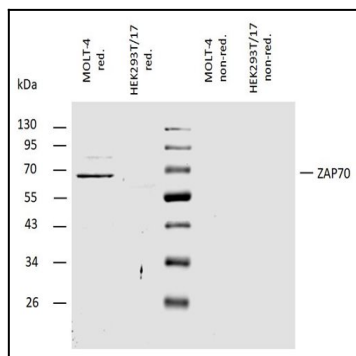


Figure-1: Western blotting analysis of human ZAP70 using rabbit polyclonal antibody PAb (430) on lysates of MOLT-4 cell line and HEK293T/17 cell line (ZAP70 non-expressing cell line; negative control) under non-reducing and reducing conditions. Nitrocellulose membrane was probed with 5  $\mu$ g/ml of rabbit anti-ZAP70 polyclonal antibody followed by IRDye800-conjugated anti-rabbit secondary antibody. A specific band was detected for ZAP70 protein at approximately 70 kDa.