

Anti-ZAP70 Monoclonal Antibody

Catalog # ABO14404

Product Information

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	P43403
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid
Description	Anti-ZAP70 Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human.

Additional Information

Gene ID	7535
Other Names	Tyrosine-protein kinase ZAP-70, 2.7.10.2, 70 kDa zeta-chain associated protein, Syk-related tyrosine kinase, ZAP70, SRK
Calculated MW	69872
Application Details	WB 1:500-1:1000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:50 FC 1:50
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: ACAF-26
Immunogen	A synthesized peptide derived from human ZAP70 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. Following TCR engagement, Zap-70 is rapidly phosphorylated on several tyrosine residues through autophosphorylation and transphosphorylation by the Src family tyrosine kinase Lck.
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name ZAP70

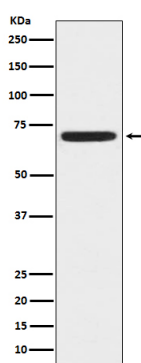
Synonyms SRK

Function Tyrosine kinase that plays an essential role in regulation of the adaptive immune response. Regulates motility, adhesion and cytokine expression of mature T-cells, as well as thymocyte development. Also contributes to the development and activation of primary B-lymphocytes. When antigen presenting cells (APC) activate T-cell receptor (TCR), a series of phosphorylations lead to the recruitment of ZAP70 to the phosphorylated TCR components CD3E and CD247/CD3Z through ITAM motif at the plasma membrane (PubMed:[7509083](#)). This recruitment serves to localization to the stimulated TCR and to relieve its autoinhibited conformation. Release of ZAP70 active conformation is further stabilized by phosphorylation mediated by LCK. Subsequently, ZAP70 phosphorylates at least 2 essential adapter proteins: LAT and LCP2. In turn, a large number of signaling molecules are recruited and ultimately lead to lymphokine production, T-cell proliferation and differentiation. Furthermore, ZAP70 controls cytoskeleton modifications, adhesion and mobility of T-lymphocytes, thus ensuring correct delivery of effectors to the APC. ZAP70 is also required for TCR-CD247/CD3Z internalization and degradation through interaction with the E3 ubiquitin-protein ligase CBL and adapter proteins SLA and SLA2. Thus, ZAP70 regulates both T-cell activation switch on and switch off by modulating TCR expression at the T-cell surface. During thymocyte development, ZAP70 promotes survival and cell-cycle progression of developing thymocytes before positive selection (when cells are still CD4/CD8 double negative). Additionally, ZAP70-dependent signaling pathway may also contribute to primary B-cells formation and activation through B-cell receptor (BCR).

Cellular Location Cytoplasm. Cell membrane; Peripheral membrane protein. Note=In quiescent T-lymphocytes, it is cytoplasmic. Upon TCR activation, it is recruited at the plasma membrane by interacting with CD247/CD3Z. Colocalizes together with RHOH in the immunological synapse. RHOH is required for its proper localization to the cell membrane and cytoskeleton fractions in the thymocytes (By similarity).

Tissue Location Expressed in T- and natural killer cells. Also present in early thymocytes and pro/pre B-cells

Images



Western blot analysis of ZAP70 expression in Jurkat cell lysate.