

## Anti-ZAP70 Monoclonal Antibody Catalog # ABO14404

### Specification

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#### Anti-ZAP70 Monoclonal Antibody - Product Information

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	<a href="#">P43403</a>
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.

#### Anti-ZAP70 Monoclonal Antibody - 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

#### Application Details

WB 1:500-1:1000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>IP 1:50<br>FC 1:50

#### 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.

#### 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.**

#### Anti-ZAP70 Monoclonal Antibody - 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. Contributes also to the development and activation of primary B- lymphocytes. When antigen presenting cells (APC) activate T-cell receptor (TCR), a serie of phosphorylations lead to the recruitment of ZAP70 to the doubly phosphorylated TCR component CD247/CD3Z through ITAM motif at the plasma membrane. 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**

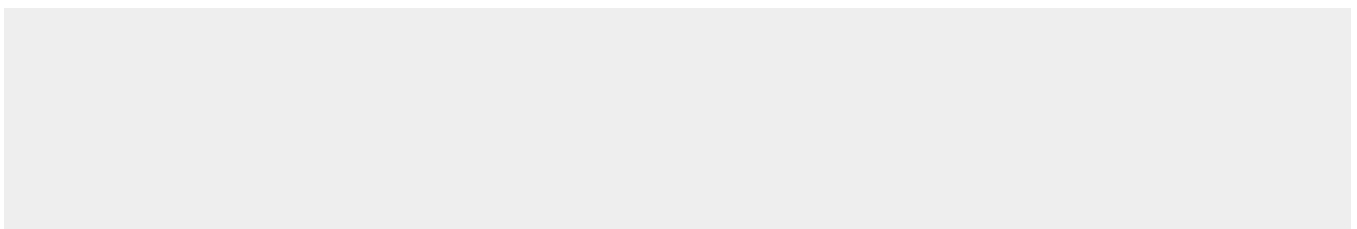
Expressed in T- and natural killer cells. Also present in early thymocytes and pro/pre B-cells

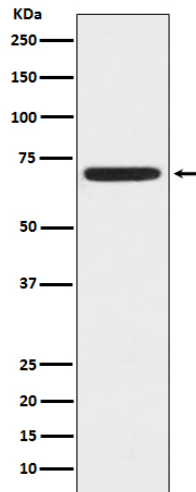
## **Anti-ZAP70 Monoclonal Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## **Anti-ZAP70 Monoclonal Antibody - Images**





Western blot analysis of ZAP70 expression in Jurkat cell lysate.