

## **ZAP70 Antibody**

Rabbit mAb Catalog # AP91367

### **Specification**

## **ZAP70 Antibody - Product Information**

Application WB, IHC, FC, ICC, IP

Primary Accession P43403
Clonality Monoclonal

**Other Names** 

Tyrosine-protein kinase ZAP-70; 70 kDa zeta-chain associated protein; Syk-related tyrosine kinase;

ZAP70; SRK;

Isotype Rabbit IgG
Host Rabbit
Calculated MW 69872 Da

# **ZAP70 Antibody - Additional Information**

Dilution WB~~1:1000

IHC~~1:100~500 FC~~1:10~50 ICC~~N/A IP~~N/A

Purification Affinity-chromatography

Immunogen A synthesized peptide derived from human

ZAP70

Description 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.

Storage Condition and Buffer Rabbit IgG in phosphate buffered saline ,

pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid

freeze / thaw cycle.

# **ZAP70 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. Also contributes 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

# **ZAP70 Antibody - Protocols**

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- <u>Immunofluorescence</u>
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

# ZAP70 Antibody - Images



