

ZAP70 Antibody (C-Terminus, clone ZAP-03)
Mouse Monoclonal Antibody
Catalog # ALS14928**Specification**

ZAP70 Antibody (C-Terminus, clone ZAP-03) - Product Information

Application	IHC
Primary Accession	P43403
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	70kDa KDa

ZAP70 Antibody (C-Terminus, clone ZAP-03) - 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

Target/Specificity

Recognizes human ZAP-70, a 70kD tyrosine protein kinase which associates with the T-cell receptor (TCR) zeta chain and undergoes phosphorylation following TCR stimulation. ZAP-70 is primarily expressed in T lymphocytes and natural killer cells, where ...

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions

ZAP70 Antibody (C-Terminus, clone ZAP-03) is for research use only and not for use in diagnostic or therapeutic procedures.

ZAP70 Antibody (C-Terminus, clone ZAP-03) - 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

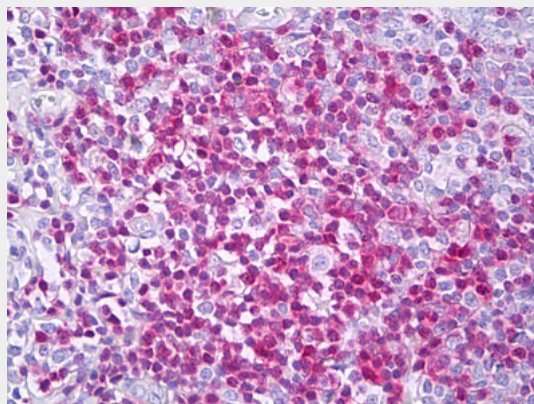
Expressed in T- and natural killer cells. Also present in early thymocytes and pro/pre B-cells

ZAP70 Antibody (C-Terminus, clone ZAP-03) - 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](#)

ZAP70 Antibody (C-Terminus, clone ZAP-03) - Images



Anti-ZAP70 antibody IHC of human tonsil.

ZAP70 Antibody (C-Terminus, clone ZAP-03) - Background

Tyrosine kinase that plays an essential role in regulation of the adaptive immune response.

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ZAP70 Antibody (C-Terminus, clone ZAP-03) - References

- Chan A.C.,et al.Cell 71:649-662(1992).
- Kuroyama H.,et al.Biochem. Biophys. Res. Commun. 315:935-941(2004).
- Hillier L.W.,et al.Nature 434:724-731(2005).
- Arpaia E.,et al.Cell 76:947-958(1994).
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