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ZAP70 antibody - N-terminal region

Rabbit Polyclonal Antibody
Catalog # AI14629

Product Information

Application	WB
Primary Accession	P43403
Other Accession	NM_207519, NP_997402
Reactivity	Human, Mouse, Rat, Pig, Guinea Pig, Bovine
Predicted	Human, Mouse, Rat, Pig, Guinea Pig, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	69872

Additional Information

Gene ID	7535
Alias Symbol	FLJ17670, FLJ17679, SRK, STD, TZK, ZAP-70
Other Names	Tyrosine-protein kinase ZAP-70, 2.7.10.2, 70 kDa zeta-chain associated protein, Syk-related tyrosine kinase, ZAP70, SRK
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 50 ul of distilled water. Final anti-ZAP70 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	ZAP70 antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

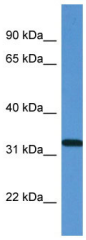
Name	ZAP70
Synonyms	SRK
Function	Tyrosine kinase that plays an essential role in regulation of the adaptive immune response. Regulates motility, adhesion and cytokine expression of mature T-cells, as well as thymocyte development. Also contributes to the development and activation of primary B-lymphocytes. When antigen presenting cells (APC) activate T-cell receptor (TCR), a serie of phosphorylations lead to the recruitment of ZAP70 to the 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

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).
Isakov N.,et al.J. Exp. Med. 181:375-380(1995).

Images



WB Suggested Anti-ZAP70 Antibody Titration: 1.0 µg/ml
Positive Control: Fetal Lung

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.