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ZAP70 Antibody (Ascites)

Mouse Monoclonal Antibody (Mab)
Catalog # AM2080a

Product Information

Application	WB, E
Primary Accession	P43403
Other Accession	NP_001070.2
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Clone Names	510CT8.1.2
Calculated MW	69872

Additional Information

Gene ID	7535
Other Names	Tyrosine-protein kinase ZAP-70, 70 kDa zeta-chain associated protein, Syk-related tyrosine kinase, ZAP70, SRK
Target/Specificity	Purified His-tagged ZAP70 protein(Fragment) was used to produced this monoclonal antibody.
Dilution	WB~~1:500~1000 E~~Use at an assay dependent concentration.
Format	Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ZAP70 Antibody (Ascites) 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

Background

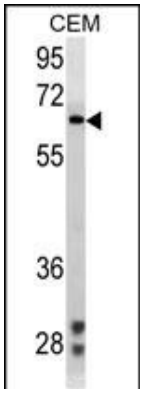
This gene encodes an enzyme belonging to the protein tyrosine kinase family, and it plays a role in T-cell development and lymphocyte activation. This enzyme, which is phosphorylated on tyrosine residues upon T-cell antigen receptor (TCR) stimulation, functions in the initial step of TCR-mediated signal transduction in combination with the Src family kinases, Lck and Fyn. This enzyme is also essential for thymocyte development. Mutations in this gene cause selective T-cell defect, a severe combined immunodeficiency disease characterized by a selective absence of CD8-positive T-cells. Two transcript variants that encode different isoforms have been found for this gene.

References

Zanotti, R., et al. Am. J. Hematol. 85(7):494-498(2010)
Lin, Y.P., et al. Mol. Immunol. 47 (11-12), 2022-2029 (2010) :
Liu, H., et al. Proc. Natl. Acad. Sci. U.S.A. 107(22):10166-10171(2010)
Kotaskova, J., et al. J Mol Diagn 12(3):328-334(2010)
Trojani, A., et al. Cancer Biomark 6(1):1-9(2010)

Images

ZAP70 Antibody (Cat. #AM2080a) western blot analysis in CEM cell line lysates (35µg/lane).This demonstrates the ZAP70 antibody detected the ZAP70 protein (arrow).



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