

ZAP-70 Polyclonal Antibody

Catalog # AP73115

Specification

ZAP-70 Polyclonal Antibody - Product Information

Application WB, IHC-P Primary Accession P43403

Reactivity Human, Mouse

Host Rabbit Clonality Polyclonal

ZAP-70 Polyclonal Antibody - Additional Information

Gene ID 7535

Other Names

ZAP70; SRK; Tyrosine-protein kinase ZAP-70; 70 kDa zeta-chain associated protein; Syk-related tyrosine kinase

Dilution

WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/10000. Not yet tested in other applications. IHC-P~~N/A

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

ZAP-70 Polyclonal 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

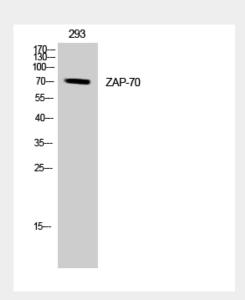
Expressed in T- and natural killer cells. Also present in early thymocytes and pro/pre B-cells

ZAP-70 Polyclonal Antibody - Protocols

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

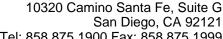
- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ZAP-70 Polyclonal Antibody - Images



Western Blot analysis of 293 cells using ZAP-70 Polyclonal Antibody. Secondary antibody was diluted at 1:20000

ZAP-70 Polyclonal Antibody - Background





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