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Anti-ZAP70 Picoband Antibody

Catalog # ABO12653

Specification

Anti-ZAP70 Picoband Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	P43403
Host	**Rabbit**
Reactivity	**Human**
Clonality	**Polyclonal**
Format	**Lyophilized**

Description
Rabbit IgG polyclonal antibody for Tyrosine-protein kinase ZAP-70(ZAP70) detection. Tested with WB, IHC-P in Human.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-ZAP70 Picoband Antibody - 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

Calculated MW
69872 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat

Western blot, 0.1-0.5 µg/ml, Human

Subcellular Localization
Cytoplasm . Cell membrane ; Peripheral membrane protein . 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 Specificity
Expressed in T- and natural killer cells. Also present in early thymocytes and pro/pre B-cells. .

Protein Name
Tyrosine-protein kinase ZAP-70

Contents
Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.

Immunogen
A synthetic peptide corresponding to a sequence in the middle region of human ZAP70 (359-393aa MRKKQIDVAIKVLKQGTEKADTEEMMREAQIMHQL), different from the related mouse sequence by two amino acids.

Purification
Immunogen affinity purified.

Cross Reactivity
No cross reactivity with other proteins

Storage	**At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.**

Anti-ZAP70 Picoband 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

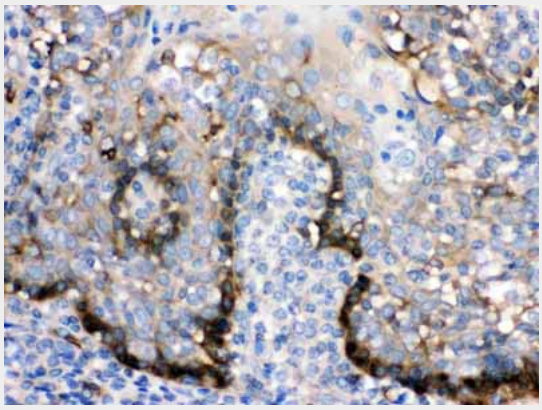
Anti-ZAP70 Picoband Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-ZAP70 Picoband Antibody - Images

Western blot analysis of ZAP70 expression in JURKAT whole cell lysates (lane 1) and CEM whole cell lysates (lane 2). ZAP70 at 70KD was detected using rabbit anti- ZAP70 Antigen Affinity purified polyclonal antibody (Catalog # ABO12653) at 0.5 ??g/mL. The blot was developed using chemiluminescence (ECL) method .



ZAP70 was detected in paraffin-embedded sections of human tonsil tissues using rabbit anti-ZAP70 Antigen Affinity purified polyclonal antibody (Catalog # ABO12653) at 1 Î¼g/mL. The immunohistochemical section was developed using SABC method (Catalog # SA2002).

Anti-ZAP70 Picoband Antibody - Background

ZAP-70 (Zeta-chain-associated protein kinase 70) 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.