



ZAP-70

Rabbit Monoclonal Antibody (Mab)
Catalog # APA121

Specification

ZAP-70 - Product Information

Application IHC
Primary Accession P43403
Host Rabbit
Clonality Monoclonal
Calculated MW 69872 Da

ZAP-70 - Additional Information

Gene ID 7535 Gene Name ZAP70

Other Names

Tyrosine-protein kinase ZAP-70, 2.7.10.2, 70 kDa zeta-chain associated protein, Syk-related tyrosine kinase, ZAP70, SRK

Dilution

IHC~~1:100~500

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 ZAP-70 is for research use only and not for

use in diagnostic or therapeutic

procedures.

ZAP-70 - Protein Information

Name ZAP70

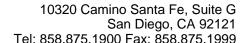
Synonyms SRK Function Tyre

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



Cellular Location

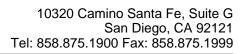
Tissue Location

ZAP-70 - 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

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





• <u>Cell Culture</u> **ZAP-70 - Images**