9853 Pacific Heights Blvd.
Suite D. San Diego,
CA 92121, USA
Tel: 858-263-4982
Email: info@abeomics.com

10-6627: Mouse Monoclonal Antibody to Zap70 (Clone: 1484CT290.68.62)(Discontinued)

Clonality :	monoclonal
Clone Name :	1484CT290.68.62
Application :	IF,FACS,WB
Reactivity :	Human,Mouse
Gene :	Zap70
Gene ID :	22637
Uniprot ID :	P43404
Format :	Purified
Alternative Name :	Tyrosine-protein kinase ZAP-70, 70 kDa zeta-chain associated protein, Syk-related tyrosine kinase, Zap70, Srk, Zap-70
Isotype :	Mouse IgG2a,Kappa

Description

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 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-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).

Product Info

Amount :	80 µl / 400 µl
Purification :	Protein G Chromatography
Content :	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.
Storage condition :	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term store at -20°C in small aliquots to prevent freeze-thaw cycles.

Application Note

FACS~1:25|| WB~1:2000 ||IF~1:25

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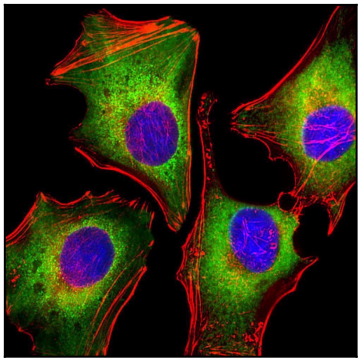

Figure 1: Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0. 1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling Pdx1 with Zap70 antibody (10-6627) at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-mouse IgG secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin at 1/100 dilution (red). The nuclear counter stain is DAPI (blue).

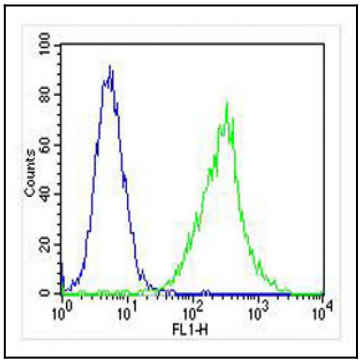

Figure 2: Overlay histogram showing Jurkat cells stained with Zap70 antibody (10-6627) (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed at 1/400 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG2a (1Î¼g/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.

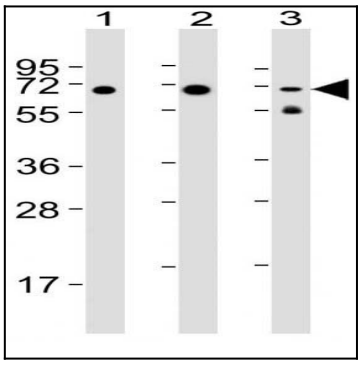

Figure 3: All lanes : Anti-Zap70 Antibody (10-6627) at 1:2000 dilution with Lane 1: Jurkat whole cell lysates, Lane 2: MOLT-4 whole cell lysates, Lane 3: mouse thymus lysates/proteins at 20 Î¼g per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 70 kDa.