Datasheet for ABIN7556127

# ZAP70 Protein (AA 1-619) (His tag)

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## Overview

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| Quantity: | 1 mg |
| Target: | ZAP70 |
| Protein Characteristics: | AA 1-619 |
| Origin: | Human |
| Source: | HEK-293 Cells |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This ZAP70 protein is labelled with His tag. |
| Application: | Western Blotting (WB), SDS-PAGE (SDS) |

## Product Details

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| Purpose: | Custom-made recombinat ZAP70 Protein expressed in mammalien cells. |
| Sequence: | MPDPAAHLPF FYGSISRAEA EEHLKLAGMA DGLFLLRQCL RSLGGYVLSL VHDVRFHHFP IERQLNGTYA IAGGKAHCGP AELCEFYSRD PDGLPCNLRK PCNRPSGLEP QPGVFDCLRD AMVRDYVRQT WKLEGEALEQ AIISQAPQVE KLIATTAHER MPWYHSSLTR EEAERKLYSG AQTDGKFLLR PRKEQGTYAL SLIYGKTVYH YLISQDKAGK YCIPEGTKFD TLWQLVEYLK LKADGLIYCL KEACPNSSAS NASGAAAPTL PAHPSTLTHP QRRIDTLNSD GYTPEPARIT SPDKPRPMPM DTSVYESPYS DPEELKDKKL FLKRDNLLIA DIELGCGNFG SVRQGVYRMR KKQIDVAIKV LKQGTEKADT EEMMREAQIM HQLDNPYIVR LIGVCQAEAL MLVMEMAGGG PLHKFLVGKR EEIPVSNVAE LLHQVSMGMK YLEEKNFVHR DLAARNVLLV NRHYAKISDF GLSKALGADD SYYTARSAGK WPLKWYAPEC INFRKFSSRS DVWSYGVTMW EALSYGQKPY KKMKGPEVMA FIEQGKRMEC PPECPPELYA LMSDCWIYKW EDRPDFLTVE QRMRACYYSL ASKVEGPPGS TQKAEAACA **Sequence without tag. The proposed Purification-Tag is based** |

## Product Details

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| | **on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.** |
| Characteristics: | Key Benefits:<br>• Made to order protein - from design to production - by highly experienced protein experts.<br>• Protein expressed in mammalien cells and purified in one-step affinity chromatography<br>• The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.<br>• State-of-the-art algorithm used for plasmid design (Gene synthesis).<br><br>This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.<br><br>If you are not interested in a full length protein, please contact us for individual protein fragments.<br><br>The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified. |
| Purity: | > 90 % as determined by Bis-Tris Page, Western Blot |
| Grade: | custom-made |

## Target Details

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| Target: | ZAP70 |
| Alternative Name: | ZAP70 (ZAP70 Products) |
| Background: | Tyrosine-protein kinase ZAP-70 (EC 2.7.10.2) (70 kDa zeta-chain associated protein) (Syk-related tyrosine kinase),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. 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 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 |

## Target Details

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| | 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). {ECO:0000269\|PubMed:11353765, ECO:0000269\|PubMed:12051764, ECO:0000269\|PubMed:1423621, ECO:0000269\|PubMed:20135127, ECO:0000269\|PubMed:26903241, ECO:0000269\|PubMed:8124727, ECO:0000269\|PubMed:8702662, ECO:0000269\|PubMed:9489702}. |
| Molecular Weight: | 69.9 kDa |
| UniProt: | P43403 |
| Pathways: | TCR Signaling, Ubiquitin Proteasome Pathway |

## Application Details

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| Application Notes: | In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though. |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Buffer: | The buffer composition is at the discretion of the manufacturer. |
| Handling Advice: | Avoid repeated freeze-thaw cycles. |
| Storage: | -80 °C |
| Storage Comment: | Store at -80°C. |
| Expiry Date: | 12 months |