

ZAP-70 (29): sc-136305

BACKGROUND

The activation of T lymphocytes by antigens is mediated by the T cell receptor (TCR) which is a multisubunit complex assembled from at least six different genes. The TCR subunits include the T α and β chains, the CD3 γ , δ and ϵ chains and a ζ -containing homodimer or heterodimer. The disulfide-linked T α - β heterodimer is responsible for antigen recognition, but the short five amino acid cytoplasmic domains of T α and β are unlikely to be sufficient to couple to intracellular signaling pathways. In contrast, the structured features of the CD3 and ζ subunits suggest a role in signal transduction. Of these, the ζ chain, which is expressed as either a homodimer or heterodimer, has a short extracellular domain of only nine amino acids, but a larger 113 amino acid cytoplasmic domain. A tyrosine phosphoprotein, ZAP-70, has been identified that associates with ζ and undergoes tyrosine phosphorylation following TCR stimulation.

REFERENCES

1. Clevers, H., et al. 1988. The T cell receptor/CD3 complex: a dynamic protein ensemble. *Annu. Rev. Immunol.* 6: 629-662.
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3. Baniyash, M., et al. 1988. The T cell antigen receptor ζ chain is tyrosine phosphorylated upon activation. *J. Biol. Chem.* 263: 18225-18230.
4. Baniyash, M., et al. 1989. The isolation and characterization of the murine T cell antigen receptor ζ chain gene. *J. Biol. Chem.* 264: 13252-13257.
5. Frank, S.J., et al. 1990. The structure and signaling function of the invariant T cell receptor components. *Semin. Immunol.* 2: 89-97.
6. Clayton, L.K., et al. 1991. CD3 η and CD3 ζ are alternatively spliced products of a common genetic locus and are transcriptionally and/or post-transcriptionally regulated during T cell development. *Proc. Natl. Acad. Sci. USA* 88: 5202-5206.
7. Chan, A.C., et al. 1991. The TCR ζ chain is associated with a tyrosine kinase and upon T-cell antigen receptor stimulation associates with ZAP-70, a 70-kDa tyrosine phosphoprotein. *Proc. Natl. Acad. Sci. USA* 88: 9166-9170.
8. Chan, A.C., et al. 1992. ZAP-70: a 70 kd protein-tyrosine kinase that associates with the TCR ζ chain. *Cell* 71: 649-662.

CHROMOSOMAL LOCATION

Genetic locus: ZAP70 (human) mapping to 2q11.2; Zap70 (mouse) mapping to 1 B.

SOURCE

ZAP-70 (29) is a mouse monoclonal antibody raised against amino acids 468-619 of ZAP-70 of human origin.

PRODUCT

Each vial contains 50 μ g IgG_{2a} in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

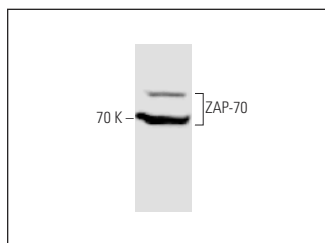
ZAP-70 (29) is recommended for detection of ZAP-70 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ZAP-70 siRNA (h): sc-29526, ZAP-70 siRNA (m): sc-36867, ZAP-70 shRNA Plasmid (h): sc-29526-SH, ZAP-70 shRNA Plasmid (m): sc-36867-SH, ZAP-70 shRNA (h) Lentiviral Particles: sc-29526-V and ZAP-70 shRNA (m) Lentiviral Particles: sc-36867-V.

Molecular Weight of ZAP-70: 70 kDa.

Positive Controls: HuT 78 whole cell lysate: sc-2208, Jurkat whole cell lysate: sc-2204 or CCRF-CEM cell lysate: sc-2225.

DATA



ZAP-70 (29): sc-136305. Western blot analysis of ZAP-70 expression in Jurkat whole cell lysate.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **ZAP-70 (1E7.2): sc-32760** for ZAP-70 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.