SANTA CRUZ BIOTECHNOLOGY, INC.

ZAP-70 (24A): sc-136126

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Ti α and β chains, the CD3 γ, δ and ε chains and a ζ-containing homodimer or heterodimer. The disulfide-linked Ti α-β heterodimer is responsible for antigen recognition, but the short five amino acid cytoplasmic domains of Ti 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

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2. Baniyash, M., Garcia-Morales, P., Bonifacino, J.S., Samelson, L.E and Klausner, R.D. 1988. Disulfide linkage of the ζ and η chains of the T cell receptor. Possible identification of two structural classes of receptors. J. Biol. Chem. 263: 9874-9878.
3. Baniyash, M., Garcia-Morales, P., Luong, E., Samelson, L.E. and Klausner, R.D. 1988. The T cell antigen receptor ζ chain is tyrosine phosphorylated upon activation. J. Biol. Chem. 263: 18225-18230.
4. Baniyash, M., Hsu, V. W., Seldin, M.F. and Klausner, R.D. 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., Samelson, L.E. and Klausner, R.D. 1990. The structure and signaling function of the invariant T cell receptor components. Semin. Immunol. 2: 89-97.
6. Clayton, L.K., D'Adamio, L.D., Howard, F.D., Sieh, M., Hussey, R.E., Koyasu, S. and Reinherz, E.L. 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.

CHROMOSOMAL LOCATION

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

SOURCE

ZAP-70 (24A) is a mouse monoclonal antibody raised against amino acids 316-325 of ZAP-70 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

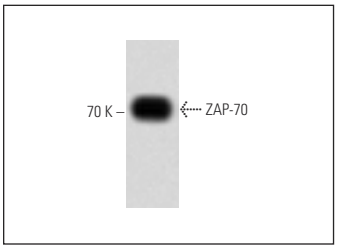
ZAP-70 (24A) is recommended for detection of ZAP-70 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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: Jurkat whole cell lysate: sc-2204, MOLT-4 cell lysate: sc-2233 or HuT 78 whole cell lysate: sc-2208.

DATA



ZAP-70 (24A): sc-136126. 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.