

ZAP-70 (h): 293T Lysate: sc-114635

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

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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.
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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.
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8. Chan, A.C., Iwashima, M., Turck, C.W. and Weiss, A. 1992. ZAP-70: a 70 kd protein-tyrosine kinase that associates with the TCR ζ chain. *Cell* 71: 649-662.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: ZAP70 (human) mapping to 2q11.2.

PRODUCT

ZAP-70 (h): 293T Lysate represents a lysate of human ZAP-70 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

ZAP-70 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive ZAP-70 antibodies. Recommended use: 10-20 μ l per lane.

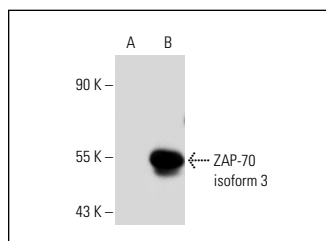
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ZAP-70 (3D2A4): sc-53899 is recommended as a positive control antibody for Western Blot analysis of enhanced human ZAP-70 expression in ZAP-70 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

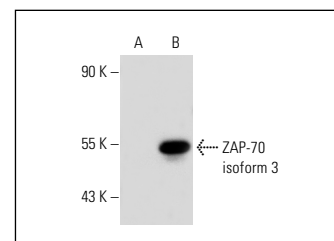
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™]
Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



ZAP-70 (3D2A4): sc-53899. Western blot analysis of ZAP-70 expression in non-transfected: sc-117752 (A) and human ZAP-70 isoform 3 transfected: sc-114635 (B) 293T whole cell lysates.



ZAP-70 (1E7.2): sc-32760. Western blot analysis of ZAP-70 expression in non-transfected: sc-117752 (A) and human ZAP-70 isoform 3 transfected: sc-114635 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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