

ZAP-70 (N-15): sc-30673

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 5 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 9 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.
2. Baniyash, M., et al. 1988. Disulfide linkage of the ζ and η chains of the T cell receptor. *J. Biol. Chem.* 263: 9874-9878.
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.

CHROMOSOMAL LOCATION

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

SOURCE

ZAP-70 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ZAP-70 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-30673 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

ZAP-70 (N-15) 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), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

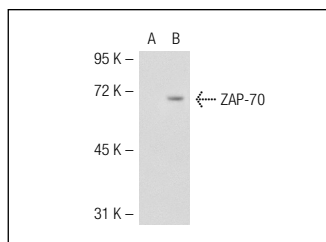
ZAP-70 (N-15) is also recommended for detection of ZAP-70 in additional species, including canine, bovine and porcine.

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.

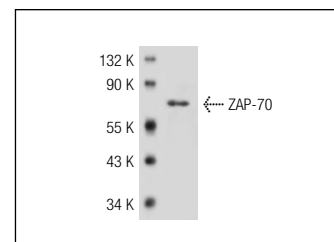
Molecular Weight of ZAP-70: 70 kDa.

Positive Controls: ZAP-70 (m): 293T Lysate: sc-124695, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

DATA



ZAP-70 (N-15): sc-30673. Western blot analysis of ZAP-70 expression in non-transfected: sc-117752 (A) and mouse ZAP-70 transfected: sc-124695 (B) 293T whole cell lysates.



ZAP-70 (N-15): sc-30673. Western blot analysis of ZAP-70 expression in Jurkat whole cell lysate.

PROTOCOLS

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



Try **ZAP-70 (1E7.2): sc-32760** or **ZAP-70 (A-1): sc-365490**, our highly recommended monoclonal alternatives to ZAP-70 (N-15). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **ZAP-70 (1E7.2): sc-32760**.