SANTA CRUZ BIOTECHNOLOGY, INC.

ZAP-70 (M-20): sc-1526

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 ω-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 ω subunits suggest a role in signal transduction. Of these, the ω 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.

CHROMOSOMAL LOCATION

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

SOURCE

ZAP-70 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ZAP-70 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-1526 P, (100 µg 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.

APPLICATIONS

ZAP-70 (M-20) 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 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

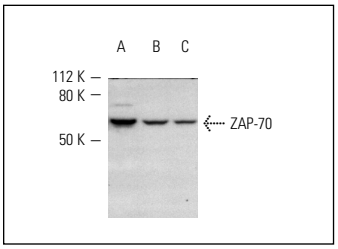
Molecular Weight of ZAP-70: 70 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, Jurkat whole cell lysate: sc-2204 or MOLT-4 cell lysate: sc-2233.

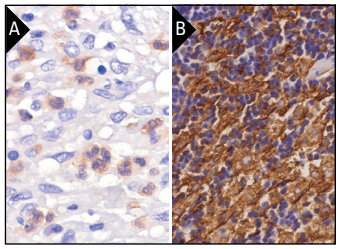
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



ZAP-70 (M-20): sc-1526. Western blot analysis of ZAP-70 expression in MOLT-4 (**A**), Jurkat (**B**) and CCRF-CEM (**C**) whole cell lysates.



ZAP-70 (M-20): sc-1526. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymphoma showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic and membrane staining of cells in non-germinal centers (**B**).

SELECT PRODUCT CITATIONS

1. Law, D. A., et al. 1999. Genetic and pharmacological analyses of Syk function in αIIbβ3 signaling in platelets. Blood 93: 2645-2652.
2. Ogawa, M., et al. 2003. The Polycomb-group protein ENX-2 interacts with ZAP-70. Immunol. Lett. 86: 57-61.
3. Gembitsky, D.S., et al. 2004. A prototype antibody microarray platform to monitor changes in protein tyrosine phosphorylation. Mol. Cell. Proteomics 3: 1102-1118.
4. Kuroyama, H., et al. 2004. Identification of a novel isoform of ZAP-70, truncated ZAP kinase. Biochem. Biophys. Res. Commun. 315: 935-941.

RESEARCH USE

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