SANTA CRUZ BIOTECHNOLOGY, INC.

TIA-1 (C-20): sc-1751

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fas, also referred to as CD95 or APO-1, is a type I transmembrane protein that plays a central role mediating viral immunity. TIA-1 and TIAR are 2 closely related proteins that possess three RRMs (RNA recognition motifs), designated RRM 1, 2 and 3, respectively. Although both TIA-1 and TIAR are thought to function as mediators of apoptotic cell death, their specific roles in such pathways are unknown. Unlike TIA-1, which is found in the granules of cytotoxic lymphocytes, TIAR expression is limited to the nucleus and found in a much broader range of cells including, but not limited to, cells of hematopoietic origin. TIAR is translocated to the cytoplasm shortly after Fas ligation and this event immediately proceeds the onset of DNA fragmentation. A novel serine/threonine kinase that is activated as a result of Fas ligation, designated FAST (Fas-activated serine/threonine), shows kinase specificity towards both TIA-1 and TIAR. In unstimulated Jurkat cells, FAST resides in the cytoplasm as a highly phosphorylated protein and is quickly dephosphorylated and activated in response to stimulated Fas.

CHROMOSOMAL LOCATION

Genetic locus: TIA1 (human) mapping to 2p13.3; Tia1 (mouse) mapping to 6 D1.

SOURCE

TIA-1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TIA-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1751 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TIA-1 (C-20) is recommended for detection of TIA-1 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).

TIA-1 (C-20) is also recommended for detection of TIA-1 in additional species, including equine, canine and porcine.

Suitable for use as control antibody for TIA-1 siRNA (h): sc-29504, TIA-1 siRNA (m): sc-36668, TIA-1 shRNA Plasmid (h): sc-29504-SH, TIA-1 shRNA Plasmid (m): sc-36668-SH, TIA-1 shRNA (h) Lentiviral Particles: sc-29504-V and TIA-1 shRNA (m) Lentiviral Particles: sc-36668-V.

Molecular Weight of TIA-1: 40 kDa.

Molecular Weight of TIA-1 granule-associated isoform: 15 kDa.

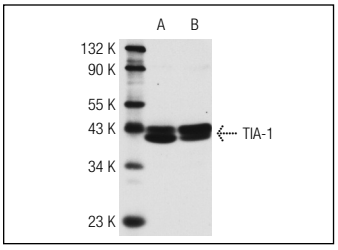
RESEARCH USE

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

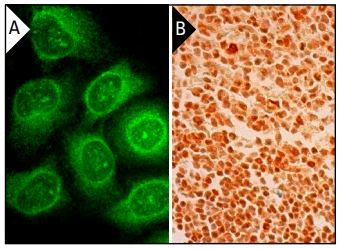
STORAGE

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

DATA



TIA-1 (C-20): sc-1751. Western blot analysis of TIA-1 expression in Jurkat (**A**) and BJAB (**B**) whole cell lysates.



TIA-1 (C-20): sc-1751. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing nuclear and cytoplasmic staining of cells in germinal centers and cells in non-germinal centers (**B**).

SELECT PRODUCT CITATIONS

1. Del Gatto-Konczak, F., et al. 2000. The RNA-binding protein TIA-1 is a novel mammalian splicing regulator acting through intron sequences adjacent to a 5' splice site. Mol. Cell. Biol. 20: 6287-6299.
2. Subramaniam, K., et al. 2010. Transcriptional down-regulation of IGFBP-3 in human hepatocellular carcinoma cells is mediated by the binding of TIA-1 to its AT-rich element in the 3'-untranslated region. Cancer Lett. 297: 259-268.
3. Singh, N.N., et al. 2011. TIA1 prevents skipping of a critical exon associated with spinal muscular atrophy. Mol. Cell. Biol. 31: 935-954.
4. Sola, I., et al. 2011. The polypyrimidine tract-binding protein affects coronavirus RNA accumulation levels and relocalizes viral RNAs to novel cytoplasmic domains different from replication-transcription sites. J. Virol. 85: 5136-5149.
5. Borghese, F. and Michiels, T. 2011. The leader protein of cardioviruses inhibits stress granule assembly. J. Virol. 85: 9614-9622.
6. Lindsay, A.J. and McCaffrey, M.W. 2011. Myosin Va is required for P body but not stress granule formation. J. Biol. Chem. 286: 11519-11528.
7. Dinh, P.X., et al. 2013. Induction of stress granule-like structures in vesicular stomatitis virus-infected cells. J. Virol. 87: 372-383.
8. Garcia-Moreno, M., et al. 2013. Requirements for eIF4A and eIF2 during translation of Sindbis virus subgenomic mRNA in vertebrate and invertebrate host cells. Cell. Microbiol. 15: 823-840.