SANTA CRUZ BIOTECHNOLOGY, INC.

TIAR (N-19): sc-1750

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 two 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.

REFERENCES

1. Hanabuchi, S., et al. 1994. Fas and its ligand in a general mechanism of T-cell-mediated cytotoxicity. Proc. Natl. Acad. Sci. USA 91: 4930-4934.
2. Taupin, J.L., et al. 1995. The RNA-binding protein TIAR is translocated from the nucleus to the cytoplasm during Fas-mediated apoptotic cell death. Proc. Natl. Acad. Sci. USA 92: 1629-1633.
3. Visonneau, S., et al. 1995. A revertant TCR$\gamma\delta^+$ cell clone which has lost MHC nonrestricted cytotoxic activity but retains redirected killing upon stimulation of the CD3 receptor. Cell. Immunol. 165: 252-265.
4. Anderson, P. 1995. TIA-1: structural and functional studies on a new class of cytolytic effector molecule. Curr. Top. Microbiol. Immunol. 198: 131-143.
5. Tian, Q., et al. 1995. Fas-activated serine/threonine kinase (FAST) phosphorylates TIA-1 during Fas-mediated apoptosis. J. Exp. Med. 182: 865-874.

CHROMOSOMAL LOCATION

Genetic locus: TIAL1 (human) mapping to 10q26.11, TIA1 (human) mapping to 2p13.3; Tial1 (mouse) mapping to 7 F3, Tia1 (mouse) mapping to 6 D1.

SOURCE

TIAR (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of TIAR of human 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-1750 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

TIAR (N-19) is recommended for detection of TIAR and, to a lesser extent, TIA-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

TIAR (N-19) is also recommended for detection of TIAR and, to a lesser extent, TIA-1 in additional species, including equine, canine, bovine, porcine and avian.

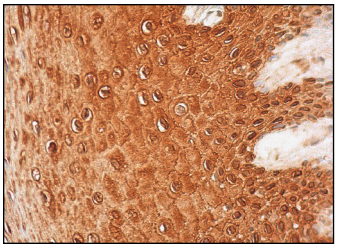
Molecular Weight of TIAR: 42/50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or BJAB whole cell lysate: sc-2207.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



TIAR (N-19): sc-1750. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing nuclear and cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes.

STORAGE

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