

TIAR (H-1): sc-398373



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 RRM (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.

CHROMOSOMAL LOCATION

Genetic locus: TIAL1 (human) mapping to 10q26.11; Tial1 (mouse) mapping to 7 F3.

SOURCE

TIAR (H-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 348-377 near the C-terminus of TIAR of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398373 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

TIAR (H-1) is recommended for detection of TIAR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

TIAR (H-1) is also recommended for detection of TIAR in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TIAR siRNA (h): sc-36671, TIAR siRNA (m): sc-36672, TIAR siRNA (r): sc-270081, TIAR shRNA Plasmid (h): sc-36671-SH, TIAR shRNA Plasmid (m): sc-36672-SH, TIAR shRNA Plasmid (r): sc-270081-SH, TIAR shRNA (h) Lentiviral Particles: sc-36671-V, TIAR shRNA (m) Lentiviral Particles: sc-36672-V and TIAR shRNA (r) Lentiviral Particles: sc-270081-V.

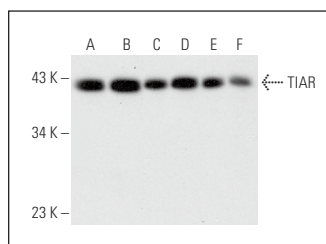
Molecular Weight of TIAR: 42/50 kDa.

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

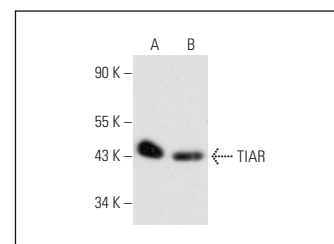
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



TIAR (H-1): sc-398373. Western blot analysis of TIAR expression in Jurkat (A), BJAB (B), HeLa (C), K-562 (D) and HuT 78 (E) whole cell lysates and human thymus tissue extract (F).



TIAR (H-1): sc-398373. Western blot analysis of TIAR expression in MOLT-4 (A) and Ramos (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fernandes, N., et al. 2020. Stress granule assembly can facilitate but is not required for TDP-43 cytoplasmic aggregation. *Biomolecules* 10: 1367.

RESEARCH USE

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