SANTA CRUZ BIOTECHNOLOGY, INC.

TIA-1/TIAR (H-120): sc-28237

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.

CHROMOSOMAL LOCATION

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

SOURCE

TIA-1/TIAR (H-120) is a rabbit polyclonal antibody raised against amino acids 21-140 mapping near the N-terminus of TIA-1 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.

STORAGE

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

APPLICATIONS

TIA-1/TIAR (H-120) is recommended for detection of TIA-1 and TIAR 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TIA-1/TIAR (H-120) is also recommended for detection of TIA-1 and TIAR in additional species, including equine, canine, bovine and avian.

Molecular Weight of TIA-1: 40 kDa.

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

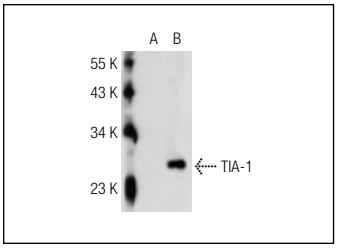
Molecular Weight of TIAR isforms: 42/50 kDa.

Positive Controls: TIA-1 (h): 293 Lysate: sc-111880, Jurkat whole cell lysate: sc-2204 or BJAB whole cell lysate: sc-2207.

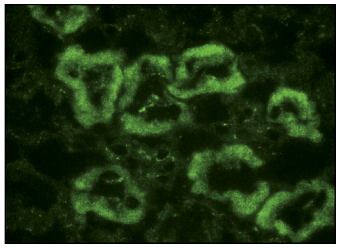
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TIA-1/TIAR (H-120): sc-28237. Western blot analysis of TIA-1 expression in non-transfected: sc-110760 (**A**) and human TIA-1 transfected: sc-111880 (**B**) 293 whole cell lysates.



TIA-1/TIAR (H-120): sc-28237. Immunofluorescence staining of normal mouse kidney frozen section showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Kwon, S., et al. 2007. The deacetylase HDAC6 is a novel critical component of stress granules involved in the stress response. Genes Dev. 21: 3381-3394.
2. Fujita, K., et al. 2008. Immunohistochemical identification of messenger RNA-related proteins in basophilic inclusions of adult-onset atypical motor neuron disease. Acta Neuropathol. 116: 439-445.
3. Gal, J., et al. 2010. Nuclear localization sequence of FUS and induction of stress granules by ALS mutants. Neurobiol. Aging 32: 2323.
4. Jones, B.L., et al. 2013. Stress granules form in *Brachionus manjavacas* (Rotifera) in response to a variety of stressors. Comp. Biochem. Physiol. A Mol. Integr. Physiol. 166: 375-384.

RESEARCH USE

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