SANTA CRUZ BIOTECHNOLOGY, INC.

TIA-1 (C-10): sc-166246



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 hema-topoietic 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-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 37-65 near the N-terminus of TIA-1 of human origin.

PRODUCT

Each vial contains 200 $\mu g\, lg G_1$ 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-166246 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TIA-1 (C-10) is recommended for detection of TIA-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 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.

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

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA





TIA-1 (C-10): sc-166246. Western blot analysis of TIA-1 expression in non-transfected: sc-110760 (\pmb{A}) and truncated human TIA-1 transfected: sc-111880 (\pmb{B}) 293 whole cell lysates.

TIA-1 (C-10): sc-166246. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear and cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic and nuclear staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- 1. Simpson-Holley, M., et al. 2011. Formation of antiviral cytoplasmic granules during orthopoxvirus infection. J. Virol. 85: 1581-1593.
- Hamdollah Zadeh, M.A., et al. 2015. Alternative splicing of TIA-1 in human colon cancer regulates VEGF isoform expression, angiogenesis, tumour growth and bevacizumab resistance. Mol. Oncol. 9: 167-178.

STORAGE

Store at 4° C, **D0 NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **TIA-1 (G-3): sc-166247** for TIA-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor^{*} 488, 546, 594, 647, 680 and 790.