SANTA CRUZ BIOTECHNOLOGY, INC.

TIA-1 (G-11): sc-365349

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. 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 (G-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 349-381 near the C-terminus of TIA-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_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-365349 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

TIA-1 (G-11) 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) 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.

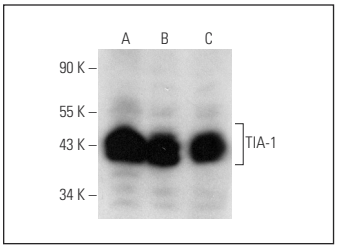
Molecular Weight of TIA-1 granule-associated isoform: 15 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, BJAB whole cell lysate: sc-2207 or K-562 whole cell lysate: sc-2203.

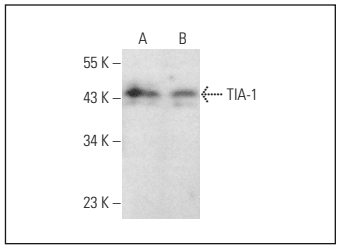
STORAGE

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

DATA



TIA-1 (G-11): sc-365349. Western blot analysis of TIA-1 expression in K-562 (**A**), Jurkat (**B**) and BJAB (**C**) whole cell lysates.



TIA-1 (G-11): sc-365349. Western blot analysis of TIA-1 expression in MOLT-4 (**A**) and HUT 78 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wiens, A.L., et al. 2012. T-cell lymphoblastic lymphoma/leukemia presenting as a pituitary mass lesion: a case report and review of the literature. Neuropathology 32: 668-674.
2. Ge, D., et al. 2014. Identification of a novel MTOR activator and discovery of a competing endogenous RNA regulating autophagy in vascular endothelial cells. Autophagy 10: 957-971.
3. Lee, J.A., et al. 2015. SerpinB2 (PAI-2) modulates proteostasis via binding misfolded proteins and promotion of cytoprotective inclusion formation. PLoS ONE 10: e0130136.
4. Ansari, M.Y. and Haqqi, T.M. 2016. Interleukin-1β induced stress granules sequester COX-2 mRNA and regulates its stability and translation in human OA chondrocytes. Sci. Rep. 6: 27611.
5. Rodriguez-Ortiz, C.J., et al. 2016. The myoblast C2C12 transfected with mutant valosin-containing protein exhibits delayed stress granule resolution on oxidative stress. Am. J. Pathol. 186: 1623-1634.
6. Liu, Y., et al. 2017. miR-19a promotes colorectal cancer proliferation and migration by targeting TIA1. Mol. Cancer 16: 53.

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.

CONJUGATES

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.