SANTA CRUZ BIOTECHNOLOGY, INC.

TID-1_S (S-9): sc-5874

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TID-1 has been identified as a 52 kDa protein which is the human homologue of the *Drosophila* tumor suppressor protein, Tid56. Both Tid56 and TID-1 belong to the DnaJ family of proteins which are characterized by a highly conserved J domain that influence apoptotic activity. The human TID-1 gene encodes two splice variants, the 43 kDa TID-1_L and the 40 kDa TID-1_S. TID-1_L expression increases apoptosis, whereas a mutant J domain suppresses apoptosis. By contrast, TID-1_S expression suppresses apoptosis, whereas a mutant J domain increases apoptosis. TID-1_L and TID-1_S are localized to the mitochondrial matrix, where they regulate apoptotic signal transduction by affecting cytochrome C release and caspase-3 activation. Both TID-1_L and TID-1_S are cleaved at amino acid 66 upon entry into the mitochondria, indicating that mature TID-1_L and TID-1_S represent cleavage products of cytoplasmic pre-proteins.

REFERENCES

1. Kurzik-Dumke, U., Gundacker, D., Renthrop, M. and Gateff, E. 1995. Tumor suppression in *Drosophila* is causally related to the funciton of the lethal(2) tumorous imaginal discs gene, a DnaJ homolog. Dev. Genet. 16: 64-76.
2. Schilling, B., De-Medina, T., Syken, J., Vidal, M. and Munger, K. 1998. A novel human DnaJ protein, hTID-1, a homolog of the *Drosophila* tumor suppressor protein Tid56, can interact with the human papillomavirus type 16 E7 oncoprotein. Virology 247: 74-85.
3. Bukau, B. and Horwich, A. 1998. The HSP 70 and HSP 60 chaperone machines. Cell 92: 351-366.
4. Green, D. and Reed, D. 1998. Mitochondria and apoptosis. Science 281: 1309-1312.
5. Syken, J., De-Medina, T. and Munger, K. 1999. TID-1, a human homolog of the *Drosophila* tumor suppressor l(2)tid, encodes two mitochondrial modulators of apoptosis with opposing functions. Proc. Natl. Acad. Sci. USA 96: 8499-8504.

CHROMOSOMAL LOCATION

Genetic locus: DNAJA3 (human) mapping to 16p13.3; Dnaja3 (mouse) mapping to 16 A1.

SOURCE

TID-1_S (S-9) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TID-1_S 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-5874 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

TID-1_S (S-9) is recommended for detection of TID-1_S 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).

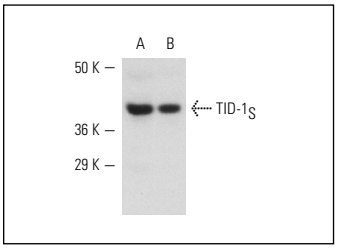
Molecular Weight of TID-1_S: 40 kDa.

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

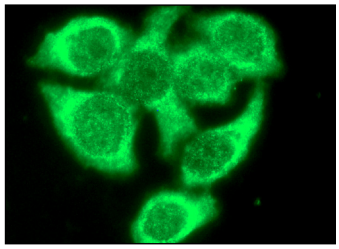
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



TID-1_S (S-9): sc-5874. Western blot analysis of TID-1_S expression in HeLa (**A**) and Jurkat (**B**) whole cell lysates.



TID-1_S (S-9): sc-5874. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Tarunina, M., Alger, L., Chu, G., Munger, K., Gudkov, A. and Jat, P.S. 2004. Functional genetic screen for genes involved in senescence: role of Tid1, a homologue of the *Drosophila* tumor suppressor l(2)tid, in senescence and cell survival. Mol. Cell. Biol. 24: 10792-10801.

RESEARCH USE

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