SANTA CRUZ BIOTECHNOLOGY, INC.

TDAG51 (h): 293T Lysate: sc-112116

BACKGROUND

Cytotoxic T lymphocyte (CTL)-mediated cytotoxicity constitutes an important component of specific effector mechanisms in immuno-surveillance against virus-infected or -transformed cells. Two mechanisms appear to account for this activity, one of which is the perforin-based process. Independently, a FAS-based mechanism involves the transducing molecule FAS (APO-1) and its ligand (FAS-L). The human FAS (APO-1) protein is a cell surface glycoprotein that belongs to a family of receptors that includes CD40, nerve growth factor receptors and tumor necrosis factor receptors. The FAS antigen is expressed on a broad range of lymphoid cell lines, and is expressed at high levels in T cells subsequent to cross-linking of the T cell receptor (TCR). A previously undescribed protein, TDAG51, restores activation-induced apoptosis in cells that have lost the ability to display FAS in response to activation. Thus, TDAG51 plays a critical role in T cell apoptosis by coupling TCR stimulation to FAS expression.

REFERENCES

1. Henkart, P.A. 1985. Mechanism of lymphocyte-mediated cytotoxicity. Annu. Rev. Immunol. 3: 31-58.
2. Young, J.D.E., et al. 1988. Perforin-dependent and -independent pathways of cytotoxicity mediated by lymphocytes. Immunol. Rev. 103: 161-202.
3. Podack, E.R., et al. 1991. A central role of perforin in cytolysis? Annu. Rev. Immunol. 9: 129-157.
4. Yagita, H., et al. 1992. Role of perforin in lymphocyte-mediated cytolysis. Adv. Immunol. 51: 215-242.
5. Drappa, J., et al. 1993. The FAS protein is expressed at high levels on $CD4^{+}CD8^{+}$ thymocytes and activated mature lymphocytes in normal mice but not in the lupus-prone strain, MRL lpr/lpr. Proc. Natl. Acad. Sci. USA 90: 10340-10344.
6. 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.
7. Park, C.G., et al. 1996. A novel gene product that couples TCR signaling to FAS (CD95) expression in activation-induced cell death. Immunity 4: 583-591.

CHROMOSOMAL LOCATION

Genetic locus: PHLDA1 (human) mapping to 12q21.2.

PRODUCT

TDAG51 (h): 293T Lysate represents a lysate of human TDAG51 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

TDAG51 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive TDAG51 antibodies. Recommended use: 10-20 µl per lane.

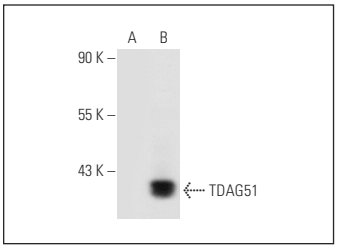
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TDAG51 (M-20): sc-6142 is recommended as a positive control antibody for Western Blot analysis of enhanced human TDAG51 expression in TDAG51 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



TDAG51 (M-20): sc-6142. Western blot analysis of TDAG51 expression in non-transfected: sc-117752 (**A**) and human TDAG51 transfected: sc-112116 (**B**) 293T whole cell lysates.

RESEARCH USE

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