SANTA CRUZ BIOTECHNOLOGY, INC.

TDAG51 siRNA (m): sc-36632

BACKGROUND

Cytotoxic T lymphocyte (CTL)-mediated cytotoxicity constitutes an important component of specific effector mechanisms in immunosurveillance 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 crosslinking 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.

CHROMOSOMAL LOCATION

Genetic locus: Phlda1 (mouse) mapping to 10 D1.

PRODUCT

TDAG51 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TDAG51 shRNA Plasmid (m): sc-36632-SH and TDAG51 shRNA (m) Lentiviral Particles: sc-36632-V as alternate gene silencing products.

For independent verification of TDAG51 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-36632A, sc-36632B and sc-36632C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TDAG51 siRNA (m) is recommended for the inhibition of TDAG51 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

TDAG51 (RN-6E2): sc-23866 is recommended as a control antibody for monitoring of TDAG51 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TDAG51 gene expression knockdown using RT-PCR Primer: TDAG51 (m)-PR: sc-36632-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Jiao, H.W., et al. 2016. Up-regulation of TDAG51 is a dependent factor of LPS-induced RAW 264.7 macrophages proliferation and cell cycle progression. Immunopharmacol. Immunotoxicol. 38: 124-130.
2. Lai, J., et al. 2023. PHLDA1 modulates microglial response and NLRP3 inflammasome signaling following experimental subarachnoid hemorrhage. Front. Immunol. 14: 1105973.

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.