SANTA CRUZ BIOTECHNOLOGY, INC.

CRTAM siRNA (m): sc-60452

BACKGROUND

Class-I MHC-restricted T cell associated molecule (CRTAM) is a receptor that is primarily expressed on activated cytotoxic lymphocytes, where it may play a role in their adhesion, interaction or migration. It is one of the most highly expressed surface markers detected on activated human NK T cells and CD8 T cells, suggesting its use as a diagnostic tool in various human viral and autoimmune diseases. CRTAM binds nectin-like protein 2 (necl2), which is involved in IL-22 expression regulation. This Necl2/CRTAM molecular pair may regulate cell/cell interactions and may play a role in neuronal interactions. CRTAM is also highly expressed in Purkinje neurons in the cerebellum.

REFERENCES

1. Kennedy, J., et al. 2000. A molecular analysis of NK T cells: identification of a class-I restricted T cell-associated molecule (CRTAM). J. Leukoc. Biol. 67: 725-734.
2. Shingai, T., et al. 2003. Implications of nectin-like molecule-2/IGSF4/RA175/SgIGSF/TSLC1/SynCAM1 in cell-cell adhesion and transmembrane protein localization in epithelial cells. J. Biol. Chem. 278: 35421-35427.
3. Boles, K.S., et al. 2005. The tumor suppressor TSLC1/NECL-2 triggers NK cell and CD8$^+$ T cell responses through the cell surface receptor CRTAM. Blood 106: 779-786.
4. Galibert, L., et al. 2005. Nectin-like protein 2 defines a subset of T-cell zone dendritic cells and is a ligand for class-I-restricted T-cell-associated molecule. J. Biol. Chem. 280: 21955-21964.
5. Patiño-Lopez, G., et al. 2005. Human class-I restricted T cell associated molecule is highly expressed in the cerebellum and is a marker for activated NKT and CD8$^+$ T lymphocytes. J. Neuroimmunol. 171: 145-155.
6. Arase, N., et al. 2005. Heterotypic interaction of CRTAM with Necl2 induces cell adhesion on activated NK cells and CD8$^+$ T cells. Int. Immunol. 17: 1227-1237.

CHROMOSOMAL LOCATION

Genetic locus: Crtam (mouse) mapping to 9 A5.1.

PRODUCT

CRTAM 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 CRTAM shRNA Plasmid (m): sc-60452-SH and CRTAM shRNA (m) Lentiviral Particles: sc-60452-V as alternate gene silencing products.

For independent verification of CRTAM (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-60452A, sc-60452B and sc-60452C.

PROTOCOLS

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

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

CRTAM siRNA (m) is recommended for the inhibition of CRTAM 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

CRTAM (C-12): sc-390581 is recommended as a control antibody for monitoring of CRTAM 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 CRTAM gene expression knockdown using RT-PCR Primer: CRTAM (m)-PR: sc-60452-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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