SANTA CRUZ BIOTECHNOLOGY, INC.

MIC2 siRNA (h): sc-35933

BACKGROUND

MIC2, also designated CD99, is a T cell surface protein that is involved in the aggregation of lymphocytes. Two forms of MIC2, which are differentially expressed, are produced by alternative splicing. The major form induces cellular adhesion, whereas the truncated form inhibits the adhesion process. MIC2 regulates the LFA-1/ICAM-1-mediated adhesion of lymphocytes. Overexpression of the truncated form results in downregulated expression of LFA-1. Cells with downregulated MIC2 exhibit a Hodgkin's and Reed-Sternberg (H-RS) phenotype, indicating that MIC2 plays an important role in regulating cell function and morphology.

REFERENCES

1. Posnett, D.N., et al. 1988. A novel method for producing anti-peptide antibodies. Production of site-specific antibodies to the T cell antigen receptor β-chain. J. Biol. Chem. 263: 1719-1725.
2. Gelin, C., et al. 1989. The E2 antigen, a 32 kDa glycoprotein involved in T cell adhesion processes, is the MIC2 gene product. EMBO J. 8: 3253-3259.
3. Banting, G.S., et al. 1989. The MIC2 gene product: epitope mapping and structural prediction analysis define an integral membrane protein. Mol. Immunol. 26: 181-188.
4. Weidner, N., et al. 1994. Immunohistochemical profile of monoclonal antibody O13: antibody that recognizes glycoprotein p30/32MIC2 and is useful in diagnosing Ewing's sarcoma and peripheral neuroepithelioma. Am. J. Surg. Pathol. 18: 486-494.
5. Reynolds, G.M., et al. 1994. Microwave oven antigen retrieval applied to the immunostaining of cytopathology specimens. Cytopathology 5: 345-358.
6. Hahn, J.H., et al. 1997. CD99 (MIC2) regulates the LFA-1/ICAM-1-mediated adhesion of lymphocytes, and its gene encodes both positive and negative regulators of cellular adhesion. J. Immunol. 159: 2250-2258.
7. Kim, S.H., et al. 1998. Generation of cells with Hodgkin's and Reed-Sternberg phenotype through downregulation of CD99 (MIC2). Blood 92: 4287-4295.
8. Choi, E.Y., et al. 1998. Engagement of CD99 induces upregulation of TCR and MHC class I and II molecules on the surface of human thymocytes. J. Immunol. 161: 749-754.

CHROMOSOMAL LOCATION

Genetic locus: CD99 (human) mapping to Xp22.33/Yp11.31.

PRODUCT

MIC2 siRNA (h) 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 MIC2 shRNA Plasmid (h): sc-35933-SH and MIC2 shRNA (h) Lentiviral Particles: sc-35933-V as alternate gene silencing products.

For independent verification of MIC2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-35933A, sc-35933B and sc-35933C.

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

MIC2 siRNA (h) is recommended for the inhibition of MIC2 expression in human 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

MIC2 (12E7): sc-53148 is recommended as a control antibody for monitoring of MIC2 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 MIC2 gene expression knockdown using RT-PCR Primer: MIC2 (h)-PR: sc-35933-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.

PROTOCOLS

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