SANTA CRUZ BIOTECHNOLOGY, INC.

Z39Ig siRNA (h): sc-72190

BACKGROUND

Cell adhesion molecules (CAMs) influence cell growth, differentiation, embryogenesis, immune response and cancer metastasis by networking information from the extracellular matrix to the cell. The four major families of cell adhesion molecules are immunoglobulin (Ig) superfamily (calcium-independent transmembrane glycoproteins), integrins (transmembrane non-covalently linked heterodimers of α and β subunits), calcium-dependent cadherins and divalent cation-dependent selectins. Regulation of neuronal synaptic adhesion by CAMs has proven important for learning and memory. Proper embryonic morphogenic development is also heavily dependent on the regulation of cell adhesion molecules. Mutation of CAM genes has been linked to several forms of cancer, effecting tumor growth and metastasis. Z39Ig is an Ig domain cell adhesion molecule detected in all human tissue but mainly expressed in fetal human tissues, adult lungs and placenta. The Z39Ig gene is localized in the pericentromeric region of human chromosome X.

REFERENCES

1. Langnaese, K., et al. 2000. Cloning of Z39Ig, a novel gene with immunoglobulin-like domains located on human chromosome X. Biochim. Biophys. Acta 1492: 522-525.
2. Walker, M.G. 2002. Z39Ig is coexpressed with activated macrophage genes. Biochim. Biophys. Acta 1574: 387-390.
3. Ahn, J.H., et al. 2002. Identification of the genes differentially expressed in human dendritic cell subsets by cDNA subtraction and microarray analysis. Blood 100: 1742-1754.
4. Kim, J.K., et al. 2005. Characterization of monoclonal antibody specific to the Z39Ig protein, a member of immunoglobulin superfamily. Immunol. Lett. 99: 153-161.
5. Lee, M.Y., et al. 2006. Z39Ig is expressed on macrophages and may mediate inflammatory reactions in arthritis and atherosclerosis. J. Leukoc. Biol. 80: 922-928.
6. Zang, X. and Allison, J.P. 2006. To be or not to be B7. J. Clin. Invest. 116: 2590-2593.
7. Vogt, L., et al. 2006. VSIG4, a B7 family-related protein, is a negative regulator of T cell activation. J. Clin. Invest. 116: 2817-2826.

CHROMOSOMAL LOCATION

Genetic locus: VSIG4 (human) mapping to Xq12.

PRODUCT

Z39Ig 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 Z39Ig shRNA Plasmid (h): sc-72190-SH and Z39Ig shRNA (h) Lentiviral Particles: sc-72190-V as alternate gene silencing products.

For independent verification of Z39Ig (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-72190A, sc-72190B and sc-72190C.

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

Z39Ig siRNA (h) is recommended for the inhibition of Z39Ig 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

Z39Ig (6H8): sc-53977 is recommended as a control antibody for monitoring of Z39Ig 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 Z39Ig gene expression knockdown using RT-PCR Primer: Z39Ig (h)-PR: sc-72190-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. Gong, E.Y., et al. 2020. VSIG4 induces epithelial-mesenchymal transition of renal tubular cells under high-glucose conditions. Life 10: 354.

RESEARCH USE

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