SANTA CRUZ BIOTECHNOLOGY, INC.

CD109 siRNA (h): sc-44950

BACKGROUND

CD109 is a glycosylphosphatidylinositol (GPI)-linked cell surface glycoprotein. It is a member of the α-Macroglobulin/C3, C4, C5 family of thioester-containing proteins. CD109 is expressed by $CD34^+$ acute myeloid leukemia cell lines, activated T lymphoblasts, activated platelets, T cell lines, endothelial cells, lung and esophageal squamous cell carcinomas and testis. It has all the characteristics of a cancer-testis antigen. CD109 carries the platelet-specific Gov antigen system, which is involved in platelet transfusion refraction, neonatal alloimmune thrombocytopenia and posttransfusion purpura.

REFERENCES

1. Sasaki, R., et al. 1979. Terminal deoxy-nucleotidyl transferase activity and B cell markers in chronic myelogenous leukemia blast crisis. Acta Haematol. 62: 143-147.
2. Kelton, J.G., et al. 1990. Gova/b alloantigen system on human platelets. Blood 75: 2172-2176.
3. Lin, M., et al. 2002. Cell surface antigen CD109 is a novel member of the α2-Macroglobulin/C3, C4, C5 family of thioester-containing proteins. Blood 99: 1683-1691.
4. Schuh, A.C., et al. 2002. A tyrosine 703 serine polymorphism of CD109 defines the Gov platelet alloantigens. Blood 99: 1692-1698.
5. Giesert, C., et al. 2003. Antibody W7C5 defines a CD109 epitope expressed on $CD34^+$ and $CD34^-$ hematopoietic and mesenchymal stem cell subsets. Ann. N.Y. Acad. Sci. 996227-996230.
6. Solomon, K.R., et al. 2004. CD109 represents a novel branch of the α2-Macroglobulin/complement gene family. Gene 327: 171-183.
7. Zhang, J.M., et al. 2005. CD109 expression in squamous cell carcinoma of the uterine cervix. Pathol. Int. 55: 165-169.

CHROMOSOMAL LOCATION

Genetic locus: CD109 (human) mapping to 6q13.

PRODUCT

CD109 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 CD109 shRNA Plasmid (h): sc-44950-SH and CD109 shRNA (h) Lentiviral Particles: sc-44950-V as alternate gene silencing products.

For independent verification of CD109 (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-44950A, sc-44950B and sc-44950C.

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

CD109 siRNA (h) is recommended for the inhibition of CD109 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

CD109 (C-9): sc-271085 is recommended as a control antibody for monitoring of CD109 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 CD109 gene expression knockdown using RT-PCR Primer: CD109 (h)-PR: sc-44950-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.