SANTA CRUZ BIOTECHNOLOGY, INC.

ERMAP siRNA (m): sc-144934

BACKGROUND

ERMAP (erythroblast membrane-associated protein), also known as RD, SC or PRO2801, is a single-pass type one membrane protein that belongs to the immunoglobulin superfamily. Expressed in cord blood, fetal liver and adult bone marrow, ERMAP is thought to function as a cell adhesion molecule in erythroid cells and is responsible for expression of the Scianna/Radin (Sc/Rd) blood group antigen system. The Sc/Rd system is comprised of seven antigens that are present on the surface of red blood cells and have a variety of functions ranging from protein transport to cell adhesion. These seven blood antigens can differ in their expression within a population and may sometimes differ between mother and child. A fetus expressing different blood antigens than its mother may cause the mother to produce antibodies against the fetal blood. This condition is known as hemolytic disease of the newborn (HDN) and is characterized by jaundice, anemia and in some cases, infant death.

REFERENCES

1. Ye, T.Z., et al. 2000. Ermap, a gene coding for a novel erythroid specific adhesion/receptor membrane protein. Gene 242: 337-345.
2. Su, Y.Y., et al. 2001. Human ERMAP: an erythroid adhesion/receptor transmembrane protein. Blood Cells Mol. Dis. 27: 938-949.
3. Xu, H., et al. 2001. Cloning and characterization of human erythroid membrane-associated protein, human ERMAP. Genomics 76: 2-4.
4. Wagner, F.F., et al. 2003. Scianna antigens including Rd are expressed by ERMAP. Blood 101: 752-757.
5. Flegel, W.A., et al. 2005. SCER and SCAN: two novel high-prevalence antigens in the Scianna blood group system. Transfusion 45: 1940-1944.
6. Velliquette, R.W. 2005. Review: the Scianna blood group system. Immunohematology 21: 70-76.
7. He, X.R., et al. 2006. Expression of human ERMAP gene in fetal tissues. Zhongguo Shi Yan Xue Ye Xue Za Zhi 14: 972-975.

CHROMOSOMAL LOCATION

Genetic locus: Ermap (mouse) mapping to 4 D2.1.

PRODUCT

ERMAP 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 ERMAP shRNA Plasmid (m): sc-144934-SH and ERMAP shRNA (m) Lentiviral Particles: sc-144934-V as alternate gene silencing products.

For independent verification of ERMAP (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-144934A, sc-144934B and sc-144934C.

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

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

ERMAP (YS-6): sc-81790 is recommended as a control antibody for monitoring of ERMAP 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 ERMAP gene expression knockdown using RT-PCR Primer: ERMAP (m)-PR: sc-144934-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.