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EMR3 siRNA (h): sc-45399

BACKGROUND

The epidermal growth factor (EGF)-TM7 family constitutes a group of leucocyte-restricted, class B, G protein-coupled receptors (GPCRs). These include CD97, EMR1 (EGF-like molecule containing mucin-like hormone receptor 1, designated F4/80 in mouse), EMR2, EMR3, FIRE and ETL. These family members are characterized by an extended extracellular region with several N-terminal EGF domains and are predominantly expressed on cells of the immune system. Unlike other GPCRs, neither EMR2 nor EMR3 have mouse orthologs. The molecular twins CD97 and EMR2 only differ by 6 out of 236 amino acids, but this slight difference is enough to alter ligand specificity and confer nonredundant functions. EMR3 may function in myeloid-myeloid interactions during immune and inflammatory responses.

REFERENCES

1. Stacey, M., et al. 2001. Human epidermal growth factor (EGF) module-containing mucin-like hormone receptor 3 is a new member of the EGF-TM7 family that recognizes a ligand on human macrophages and activated neutrophils. *J. Biol. Chem.* 276: 18863-18870.
2. Kwakkenbos, M.J., et al. 2002. The human EGF-TM7 family member EMR2 is a heterodimeric receptor expressed on myeloid cells. *J. Leukoc. Biol.* 71: 854-862.
3. Bjarnadottir, T.K., et al. 2004. The human and mouse repertoire of the adhesion family of G protein-coupled receptors. *Genomics* 84: 23-33.
4. Leemans, J.C., et al. 2004. The epidermal growth factor-seven transmembrane (EGF-TM7) receptor CD97 is required for neutrophil migration and host defense. *J. Immunol.* 172: 1125-1131.

CHROMOSOMAL LOCATION

Genetic locus: EMR3 (human) mapping to 19p13.12.

PRODUCT

EMR3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EMR3 shRNA Plasmid (h): sc-45399-SH and EMR3 shRNA (h) Lentiviral Particles: sc-45399-V as alternate gene silencing products.

For independent verification of EMR3 (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-45399A, sc-45399B and sc-45399C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

EMR3 siRNA (h) is recommended for the inhibition of EMR3 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 μ M in 66 μ l. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EMR3 gene expression knockdown using RT-PCR Primer: EMR3 (h)-PR: sc-45399-PR (20 μ l). 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.