

TREML1 siRNA (h): sc-95479

BACKGROUND

TREML1 (triggering receptor expressed on myeloid cells-like 1), also known as TLT1 or TLT-1, is a 311 amino acid single-pass type I membrane protein. Expressed in platelets, monocytic leukemia and T-cell leukemia, TREML1 is a cell surface receptor that may be involved in the innate and adaptive immune response. TREML1 may play a significant role in maintaining vascular hemostasis, coagulation, and inflammation at sites of injury through its location in platelets. It is suggested that defects in the gene encoding TREML1 may be the cause of the Gray platelet syndrome, a rare inherited congenital bleeding disorder caused by a reduction or absence of the platelet α -granules in blood platelets. TREML1 enhances calcium signaling when bound to SH-PTP2 and contains one Ig-like V-type domain.

REFERENCES

1. Washington, A.V., et al. 2002. Initial characterization of TREM-like transcript (TLT)-1: a putative inhibitory receptor within the TREM cluster. *Blood* 100: 3822-3824.
2. Washington, A.V., et al. 2004. A TREM family member, TLT-1, is found exclusively in the α -granules of megakaryocytes and platelets. *Blood* 104: 1042-1047.
3. Gibot, S. 2005. Clinical review: role of triggering receptor expressed on myeloid cells-1 during sepsis. *Crit. Care* 9: 485-489.
4. Murakami, Y., et al. 2006. Induction of triggering receptor expressed on myeloid cells 1 in murine resident peritoneal macrophages by monosodium urate monohydrate crystals. *Arthritis Rheum.* 54: 455-462.
5. Lu, Y.T., et al. 2006. Preparation and characterization of monoclonal antibody against protein TREM-like transcript-1 (TLT-1). *Hybridoma* 25: 20-26.
6. Gattis, J.L., et al. 2006. The structure of the extracellular domain of triggering receptor expressed on myeloid cells like transcript-1 and evidence for a naturally occurring soluble fragment. *J. Biol. Chem.* 281: 13396-13403.
7. Giomarelli, B., et al. 2007. Inhibition of thrombin-induced platelet aggregation using human single-chain Fv antibodies specific for TREM-like transcript-1. *Thromb. Haemost.* 97: 955-963.
8. Nurden, A.T., et al. 2008. Phenotypic heterogeneity in the Gray platelet syndrome extends to the expression of TREM family member, TLT-1. *Thromb. Haemost.* 100: 45-51.
9. Washington, A.V., et al. 2009. TREM-like transcript-1 protects against inflammation-associated hemorrhage by facilitating platelet aggregation in mice and humans. *J. Clin. Invest.* 119: 1489-1501.

CHROMOSOMAL LOCATION

Genetic locus: TREML1 (human) mapping to 6p21.1.

PROTOCOLS

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

PRODUCT

TREML1 siRNA (h) is a pool of 2 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 TREML1 shRNA Plasmid (h): sc-95479-SH and TREML1 shRNA (h) Lentiviral Particles: sc-95479-V as alternate gene silencing products.

For independent verification of TREML1 (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-95479A and sc-95479B.

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

TREML1 siRNA (h) is recommended for the inhibition of TREML1 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 TREML1 gene expression knockdown using RT-PCR Primer: TREML1 (h)-PR: sc-95479-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.