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TREM-2 siRNA (m): sc-45369

BACKGROUND

Polycystic lipomembranous osteodysplasia with sclerosing leukoencephalopathy (PLOS), known as "Nasu-Hakola disease", is a recessively inherited disease where individuals display early-onset progressive dementia and bone cysts, which leads to death. Mutations in TYROBP (DAP12), which codes for a membrane receptor component in natural-killer and myeloid cells and mutations in triggering receptor expressed on myeloid cells-2 (TREM-2), correlate well to the pathology of PLOS. TREM-2 is a cell surface receptor on human monocyte-derived dendritic cells that forms a receptor signaling complex with DAP12 and triggers activation of the immune response in macrophages and dendritic cells (DC). The TREM-2/DAP12 complex is a molecular promoter of upregulation of C-C chemokine receptor 7, partial DC maturation, and DC survival through activation of protein tyrosine kinases and extracellular signal-regulated kinase. The human chronic inflammatory TREM-2 gene maps to chromosome 6p21.1 and encodes a 230 amino acid protein.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Trem2 (mouse) mapping to 17 C.

PRODUCT

TREM-2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TREM-2 shRNA Plasmid (m): sc-45369-SH and TREM-2 shRNA (m) Lentiviral Particles: sc-45369-V as alternate gene silencing products.

For independent verification of TREM-2 (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-45369A, sc-45369B and sc-45369C.

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 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

TREM-2 siRNA (m) is recommended for the inhibition of TREM-2 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 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 TREM-2 gene expression knockdown using RT-PCR Primer: TREM-2 (m)-PR: sc-45369-PR (20 μ l, 497 bp). 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.