

TRIL siRNA (h): sc-89737

BACKGROUND

TRIL (TLR4 interactor with leucine rich repeats), also known as Leucine-rich repeat-containing protein KIAA0644, is a 811 amino acid single-pass membrane protein that is highly expressed in brain with lower expression in lung, kidney, ovary, spleen and small intestine. TRIL is a component of the TLR4 signaling complex, which mediates the innate immune response to bacterial lipopolysaccharide (LPS) and leading to cytokine secretion. TRIL interaction with TLR4 is enhanced by LPS stimulation. The gene encoding TRIL maps to human chromosome 7, which is about 158 million bases long and encodes over 1,000 genes. Chromosome 7 has been linked to osteogenesis imperfecta, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome. The deletion of a portion of the q arm of chromosome 7 is associated with Williams-Beuren syndrome, a condition characterized by mild mental retardation, an unusual comfort and friendliness with strangers and an elfin appearance. Deletions of portions of the q arm of chromosome 7 are also seen in a number of myeloid disorders including cases of acute myelogenous leukemia and myelodysplasia.

REFERENCES

1. Tsipouras, P., et al. 1983. Restriction fragment length polymorphism associated with the pro α 2(I) gene of human type I procollagen. Application to a family with an autosomal dominant form of osteogenesis imperfecta. *J. Clin. Invest.* 72: 1262-1267.
2. Liang, H., et al. 1998. Molecular anatomy of chromosome 7q deletions in myeloid neoplasms: evidence for multiple critical loci. *Proc. Natl. Acad. Sci. USA* 95: 3781-3785.
3. Waterston, R.H., et al. 2003. The human genome: genes, pseudogenes, and variation on chromosome 7. *Cold Spring Harb. Symp. Quant. Biol.* 68: 13-22.
4. Hillier, L.W., et al. 2003. The DNA sequence of human chromosome 7. *Nature* 424: 157-164.
5. Eckert, M.A., et al. 2006. The neurobiology of Williams syndrome: cascading influences of visual system impairment? *Cell. Mol. Life Sci.* 63: 1867-1875.
6. Brezinová, J., et al. 2007. Structural aberrations of chromosome 7 revealed by a combination of molecular cytogenetic techniques in myeloid malignancies. *Cancer Genet. Cytogenet.* 173: 10-16.
7. Carpenter, S., et al. 2009. TRIL, a functional component of the TLR4 signaling complex, highly expressed in brain. *J. Immunol.* 183: 3989-3995.
8. Sbruzzi, I.C., et al. 2010. Williams-Beuren syndrome: diagnosis by polymorphic markers. *Genet. Test. Mol. Biomarkers* 14: 209-214.

CHROMOSOMAL LOCATION

Genetic locus: TRIL (human) mapping to 7p14.3.

PROTOCOLS

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

PRODUCT

TRIL 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 TRIL shRNA Plasmid (h): sc-89737-SH and TRIL shRNA (h) Lentiviral Particles: sc-89737-V as alternate gene silencing products.

For independent verification of TRIL (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-89737A, sc-89737B and sc-89737C.

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

TRIL siRNA (h) is recommended for the inhibition of TRIL 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 TRIL gene expression knockdown using RT-PCR Primer: TRIL (h)-PR: sc-89737-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.