



LT β R siRNA (h): sc-40241

BACKGROUND

Tumor necrosis factor (TNF) is a pleiotropic cytokine whose function is mediated by two distinct cell surface receptors, designated TNF-R1 and TNF-R2, which are expressed on most cell types. TNF function is primarily mediated through TNF-R1 signaling. Both receptors belong to the growing TNF Receptor superfamily which includes FAS antigen, CD40 and Lymphotoxin β Receptor (LT β R). LT β R is activated upon association with the heterotrimeric Lymphotoxin LT- α_1/β_2 , resulting in NF κ B activation and the initiation of apoptosis. LT β R is expressed on the surface of most cell types, excluding T and B lymphocytes, and is involved in lymphoid organ development.

REFERENCES

1. Crowe, P.D., et al. 1994. A Lymphotoxin β -specific receptor. *Science* 264: 707-710.
2. Smith, C.A., et al. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation, and death. *Cell* 76: 959-962.
3. Nagata, S., et al. 1995. The FAS death factor. *Science* 267: 1449-1456.
4. Ware, C.F., et al. 1995. The ligands and receptor of the lymphotoxin system. *Curr. Top. Microbiol. Immunol.* 198: 175-218.
5. VanArsdale, T.L., et al. 1997. Lymphotoxin β receptor signaling complex: role of tumor necrosis factor receptor-associated factor 3 recruitment in cell death and activation of nuclear factor κ B. *Proc. Natl. Acad. Sci. USA* 94: 2460-2465.
6. Futterer, A., et al. 1998. The Lymphotoxin β receptor controls organogenesis and affinity maturation in peripheral lymphoid tissues. *Immunity* 9: 59-70.

CHROMOSOMAL LOCATION

Genetic locus: LTBR (human) mapping to 12p13; Ltbr (mouse) mapping to 6 F3.

PRODUCT

LT β R siRNA (h) is a pool of 3 target-specific 20-25 nt siRNAs designed to knock down gene expression. Each vial contains 3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections.

For independent verification of LT β R (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3 nmol of lyophilized siRNA. These include: sc-40241A, sc-40241B and sc-40241C.

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.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

LT β R siRNA (h) is recommended for the inhibition of LT β R expression in human cells.

LT β R (N-15): sc-8375 is recommended as a control antibody for Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) protein detection using the recommended secondary reagents listed below.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 60 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. Semi-quantitative RT-PCR may be performed using RT-PCR Primer: LT β R (h)-PR: sc-40241-PR (20 μ l, 458 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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