

TALL-1 siRNA (m): sc-39831

BACKGROUND

TNF cytokine family member TALL-1 (also designated BAFF, THANK and BlyS), is a type II membrane protein that shares characteristics with other members of the tumor necrosis factor (TNF) cytokine family. TALL-1 is expressed abundantly in peripheral blood leukocytes, monocytes and macrophages. TALL-1 is critically involved in the regulation of infections, inflammation, autoimmune diseases and tissue homeostasis. TALL-1 is a potent B cell stimulatory factor which is functionally involved in B cell proliferation and may be a primary mediator in B cell-associated autoimmune diseases. The C-terminal extracellular domain has β jelly roll topography and is important in ligand trimerization. The binding of the ligand to its respective receptor induces oligomerization, initiating downstream signaling events. Intrinsic to oligomerization is the formation of the receptor binding site at the junction between neighboring subunits, creating a multivalent ligand.

REFERENCES

1. Smith, C.A., et al. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation and death. *Cell* 76: 959-962.
2. Hahne, M., et al. 1998. APRIL, a new ligand of the tumor necrosis factor family, stimulates tumor cell growth. *J. Exp. Med.* 188: 1185-1190.
3. Schneider, P., et al. 1999. BAFF, a novel ligand of the tumor necrosis factor family, stimulates B cell growth. *J. Exp. Med.* 189: 1747-1756.
4. Moore, P.A., et al. 1999. BlyS: Member of the tumor necrosis factor family and B lymphocyte stimulator. *Science* 285: 260-263.
5. Mukhopadhyay, A., et al. 1999. Identification and characterization of a novel cytokine, THANK, a TNF homologue that activates apoptosis, NF κ B, and c-Jun NH $_2$ -terminal kinase. *J. Biol. Chem.* 274: 15978-15981.
6. Shu, H.B., et al. 1999. TALL-1 is a novel member of the TNF family that is down-regulated by mitogens. *J. Leukoc. Biol.* 65: 680-683.
7. Khare, S.D., et al. 2000. Severe B cell hyperplasia and autoimmune disease in TALL-1 transgenic mice. *Proc. Natl. Acad. Sci. USA* 97: 3370-3375.
8. Mariette, X., et al. 2003. The level of BlyS (BAFF) correlates with the titre of autoantibodies in human Sjögren's syndrome. *Ann. Rheum. Dis.* 62: 168-171.

CHROMOSOMAL LOCATION

Genetic locus: Tnfsf13b (mouse) mapping to 8 A1.1.

PRODUCT

TALL-1 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 TALL-1 shRNA Plasmid (m): sc-39831-SH and TALL-1 shRNA (m) Lentiviral Particles: sc-39831-V as alternate gene silencing products.

For independent verification of TALL-1 (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-39831A, sc-39831B and sc-39831C.

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

TALL-1 siRNA (m) is recommended for the inhibition of TALL-1 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.

GENE EXPRESSION MONITORING

TALL-1 (A-9): sc-271809 is recommended as a control antibody for monitoring of TALL-1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TALL-1 gene expression knockdown using RT-PCR Primer: TALL-1 (m)-PR: sc-39831-PR (20 μ l, 598 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.

PROTOCOLS

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