SANTA CRUZ BIOTECHNOLOGY, INC.

BAFF-R siRNA (h): sc-40231

BACKGROUND

TNF cytokine family member TALL-1 (also designated BAFF, zTNF4, 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 has the ability to bind to three receptors, TACI, BCMA and BAFF-R, but unlike other TNF receptors, BAFF-R specifically binds only the TALL-1 ligand. The gene encoding human BAFF-R, which maps to chromosome 22q13.2, is expressed at high levels in spleen and lymph nodes and at lower levels in peripheral blood leukocytes and thymus. Expression of BAFF-R is crucial for selecting transitional B cells into the mature B cell pool.

REFERENCES

1. 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.
2. Moore, P.A., et al. 1999. BLyS: member of the tumor necrosis factor family and B lymphocyte stimulator. Science 285: 260-263.
3. Mukhopadhyay, A., et al. 1999. Identification and characterization of a novel cytokine, THANK, a TNF homologue that activates apoptosis, nuclear factor-κB, and c-Jun NH_2-terminal kinase. J. Biol. Chem. 274: 15978-15981.
4. Waldschmidt, T.J., et al. 2001. Immunology. Long live the mature B cell — a baffling mystery resolved. Science 293: 2012-2013.
5. Thompson, J.S., et al. 2001. BAFF-R, a newly identified TNF receptor that specifically interacts with BAFF. Science 293: 2108-2111.

CHROMOSOMAL LOCATION

Genetic locus: TNFRSF13C (human) mapping to 22q13.2.

PRODUCT

BAFF-R 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BAFF-R shRNA Plasmid (h): sc-40231-SH and BAFF-R shRNA (h) Lentiviral Particles: sc-40231-V as alternate gene silencing products.

For independent verification of BAFF-R (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-40231A, sc-40231B and sc-40231C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM 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

BAFF-R siRNA (h) is recommended for the inhibition of BAFF-R 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 µM in 66 µl. 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

BAFF-R (H-1): sc-365410 is recommended as a control antibody for monitoring of BAFF-R 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 BAFF-R gene expression knockdown using RT-PCR Primer: BAFF-R (h)-PR: sc-40231-PR (20 µl, 572 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kohno, T., et al. 2008. Aberrant expression of BAFF receptor, a member of the tumor necrosis factor receptor family, in malignant cells of non-hematopoietic origins. Genes Cells 13: 1061-1073.

PROTOCOLS

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