SANTA CRUZ BIOTECHNOLOGY, INC.

BCMA siRNA (h): sc-40233

BACKGROUND

The B cell maturation protein (BCMA), also designated BCM and tumor necrosis factor receptor superfamily, member 17, is a type I integral membrane protein located on chromosome band 16p13.1 that belongs to the tumor necrosis factor receptor (TNF-R) superfamily. It is expressed as a 184 amino acid peptide that is expressed only in mature B lymphocytes and is located on the *cis* part of the Golgi apparatus. BCMA shares significant homology with TACI (transmembrane activator) within the cysteine-rich domain. TACI has been shown to bind CAML, which induces activation of NFAT (nuclear factor of activated T cells). Both BCMA and TACI have been shown to bind APRIL and TALL-1, which stimulate B cell proliferation in conjunction with other B cell activators. When overexpressed, TALL-1 stimulates the development of systemic lupus erythaematosus (SLE).

REFERENCES

1. Laabi, Y., et al. 1992. A new gene, BCM, on chromosome 16 is fused to the interleukin 2 gene by a t(4;16) (q26;p13) translocation in a malignant T cell lymphoma. EMBO J. 11: 3897-3904.
2. Laabi, Y., et al. 1994. The BCMA gene, preferentially expressed during B lymphoid maturation, is bidirectionally transcribed. Nucleic Acids Res. 22: 1147-1154.
3. Gras, M.P., et al. 1995. BCMAp: an integral membrane protein in the Golgi apparatus of human mature B lymphocytes. Int. Immunol. 7: 1093-1106.
4. Von Bulow, G.U., et al. 1997. NFAT activation induces by a CAML-interacting member of the tumor necrosis factor receptor superfamily. Science 278: 138-141.
5. Madry, C., et al. 1998. The characterization of murine BCMA gene defines it as a new member of the tumor necrosis factor receptor superfamily. Int. Immunol. 10: 1693-1702.
6. Gross, J.A., et al. 2000. TACI and BCMA are receptors for a TNF homologue implicated in B-cell autoimmune disease. Nature 404: 995-999.
7. Smirnova, A.S., et al. 2007. Identification of new splice variants of the genes BAFF and BCMA. Mol. Immunol. E-published ahead of print.

CHROMOSOMAL LOCATION

Genetic locus: BCM (human) mapping to Xq28; Bcm (mouse) mapping to 16 B3.

PRODUCT

BCMA 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections.

For independent verification of BCMA (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3 nmol of lyophilized siRNA. These include: sc-40233A, sc-40233B and sc-40233C.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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 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.

APPLICATIONS

BCMA siRNA (h) is recommended for the inhibition of BCMA expression in human cells.

BCMA (N-16): sc-11743 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 10µM in 60 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. Semi-quantitative RT-PCR may be performed using RT-PCR Primer: BCMA (h)-PR: sc-40233-PR (20 µl).

RESEARCH USE

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