SANTA CRUZ BIOTECHNOLOGY, INC.

BCMA siRNA (m): sc-40234

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. 2008. Identification of new splice variants of the genes BAFF and BCMA. Mol. Immunol. 45: 1179-1183.

CHROMOSOMAL LOCATION

Genetic locus: Tnfrsf17 (mouse) mapping to 16 A1.

PRODUCT

BCMA 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BCMA shRNA Plasmid (m): sc-40234-SH and BCMA shRNA (m) Lentiviral Particles: sc-40234-V as alternate gene silencing products.

For independent verification of BCMA (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-40234A, sc-40234B and sc-40234C.

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 (m) is recommended for the inhibition of BCMA 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 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

BCMA (D-6): sc-390147 is recommended as a control antibody for monitoring of BCMA 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 BCMA gene expression knockdown using RT-PCR Primer: BCMA (m)-PR: sc-40234-PR (20 µl). 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.