SANTA CRUZ BIOTECHNOLOGY, INC.

BCMA (N-16): sc-11743

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The Power to Question

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 16p13.13 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. Laâbi, 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. Laâbi, 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 induced by a CAML-interacting member of the TNF-R 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 TNFR 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.

CHROMOSOMAL LOCATION

Genetic locus: TNFRSF17 (human) mapping to 16p13.13; Tnfrsf17 (mouse) mapping to 16 A1.

SOURCE

BCMA (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of BCMA of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11743 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

BCMA (N-16) is recommended for detection of BCMA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BCMA siRNA (h): sc-40233, BCMA siRNA (m): sc-40234, BCMA shRNA Plasmid (h): sc-40233-SH, BCMA shRNA Plasmid (m): sc-40234-SH, BCMA shRNA (h) Lentiviral Particles: sc-40233-V and BCMA shRNA (m) Lentiviral Particles: sc-40234-V.

Molecular Weight of BCMA: 20 kDa.

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.

SELECT PRODUCT CITATIONS

1. Schwering, I., et al. 2003. Loss of the B-lineage-specific gene expression program in Hodgkin and Reed-Sternberg cells of Hodgkin lymphoma. Blood 101: 1505-1512.
2. He, B., et al. 2004. Lymphoma B cells evade apoptosis through the TNF family members BAFF/BLyS and APRIL. J. Immunol. 172: 3268-3279.
3. Nagatani, K., et al. 2007. Rheumatoid arthritis fibroblast-like synoviocytes express BCMA and are stimulated by APRIL. Arthritis Rheum. 56: 3554-3563.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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