

Product Information

BCMA/Fc Chimera mouse

Recombinant, expressed in mouse NSO cells

Catalog Number **B1309**

Product Description

BCMA/Fc Chimera mouse, recombinant, is produced from a DNA sequence encoding the signal peptide from human CD33 joined with amino acids 1-49 of the extracellular domain of mouse BCMA fused to the Fc region of human IgG1 via a polypeptide linker. Reduced mouse BCMA/Fc monomer has a calculated molecular mass of 32 kDa. Due to glycosylation, the recombinant protein migrates as a 35-40 kDa protein in SDS-PAGE under reducing conditions.

Mouse BCMA (185 amino acids) consists of an extracellular domain (49 amino acids), a transmembrane domain (23 amino acids), and an intracellular domain (113 amino acids).¹ Mouse and human BCMA share 62% amino acid identity.¹

BCMA (B cell maturation) is a member of the tumor necrosis factor (TNF) receptor superfamily. It has also been designated as TNFRSF17. BCMA, a type III membrane protein, contains one extracellular cysteine rich domain. Within the TNF receptor superfamily, BMCA shares the highest homology with TACI. Both BMCA and TACI bind to APRIL and BAFF, members of the TNF ligand superfamily.²

The binding of BCMA to APRIL or BAFF has been shown to stimulate IgM production in peripheral blood B cells and increase the survival of cultured B cells, suggesting that BCMA may play an important role in B cell development, function, and regulation.

BCMA is expressed in immune organs and mature B cell lines and appears to be localized to the Golgi compartment³, but some expression has been observed at the cell surface.⁴

Reagent

Supplied as ~50 µg of protein lyophilized from a 0.2 µm filtered solution in 20 mM MES, 50 mM NaCl, pH 6.2.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate buffered saline containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 10 µg/ml.

Storage/Stability

Store at -20 °C. Upon reconstitution, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

BCMA/Fc Chimera mouse, recombinant, is measured by its ability to inhibit APRIL-mediated proliferation of Anti-IgM stimulated mouse B cells.⁵⁻⁷

The ED₅₀ for this effect is typically 0.01-0.03 µg/ml in the presence of 100 ng/ml recombinant human APRIL.

Purity: > 95% as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 0.1 ng/µg cytokine as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Madry, C., et al., The characterization of murine BCMA gene defines it as a new member of the tumor necrosis factor receptor superfamily. *Int. Immunol.*, **10**, 1693-1702 (1998).
2. Marsters, S.A., et al., Interaction of the TNF homologues Blys and APRIL with the TNF receptor homologues BCMA and TACI. *Curr. Biol.*, **10**, 785-788 (2000).

3. Gras, M.P., et al., BCMAp: an integral membrane protein in the Golgi apparatus of human mature B lymphocytes. *Int. Immunol.*, **7**, 1093-1106 (1995).
4. Thompson, J.S., et al., BAFF binds to the tumor necrosis factor receptor-like molecule B cell maturation antigen and is important for maintaining the peripheral B cell population. *J. Exp. Med.*, **192**, 129-135 (2000).
5. Moore, P.A., et al., BlyS: member of the tumor necrosis factor family and B lymphocyte stimulator. *Science*, **285**, 260-263 (1999).
6. Gross, J.A., et al., TACI and BCMA are receptors for a TNF homologue implicated in B-cell autoimmune disease. *Nature*, **404**, 995-999 (2000).
7. Schneider, O., et al, BAFF, a novel ligand of the tumor necrosis factor family, stimulates B cell growth. *J. Exp. Med.*, **189**, 1747-1756 (1999).

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