

## Product Information

### BCMA/Fc Chimera

Human, Recombinant

Expressed in mouse NSO cells

Product Number **B 1184**

### Product Description

Recombinant Human BCMA/Fc Chimera is produced from a DNA sequence encoding the signal peptide from human CD33 joined with amino acids 1-54 of the extracellular domain of human BCMA fused to the Fc region of human IgG1 via a polypeptide linker. Reduced human BCMA/Fc monomer has a calculated molecular mass of 32 kDa. Due to glycosylation, the recombinant protein migrates as a 35-45 kDa protein in SDS-PAGE under reducing conditions.

Human BCMA (184 amino acids) consists of an extracellular domain (54 amino acids), a transmembrane domain (23 amino acids), and an intracellular domain (107 amino acids).<sup>1</sup> Mouse and human BCMA share 62% amino acid identity.<sup>2</sup>

BCMA (B cell maturation) is a member 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, BCMA shares the highest homology with TACI. Both BCMA and TACI bind to APRIL and BAFF, members of the TNF ligand superfamily.<sup>3</sup>

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. BCMA appears to be localized to the Golgi compartment<sup>4</sup> but some expression has been observed at the cell surface.<sup>5</sup>

### Reagent

Recombinant Human BCMA/Fc Chimera is supplied as approximately 50 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline.

### 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 °C to 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

Recombinant Human BCMA/Fc Chimera is measured by its ability to inhibit APRIL-mediated proliferation of anti-IgM stimulated mouse B cells.<sup>6-8</sup>

The ED<sub>50</sub> for this effect is typically 0.01 µg/ml to 0.04 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 amebocyte lysate) method.

### References

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5. 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).
6. Moore, P.A., et al., BlyS: member of the tumor necrosis factor family and B lymphocyte stimulator. *Science*, **285**, 260-263 (1999).
7. 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).
8. 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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