

## Product Information

### **BAFF Receptor/Fc Chimera**

Human, Recombinant

Expressed in mouse NSO cells

Product Number **B 4060**

#### **Product Description**

Recombinant Human BAFF Receptor/Fc Chimera is produced from the extracellular domain of human BAFF receptor (amino acids residues 2-71)<sup>1</sup> joined with the signal peptide of human CD33 fused to the Fc region of human IgG1 via a polypeptide linker. The chimeric protein is expressed in a mouse myeloma cell line, NSO. The recombinant mature human BAFF receptor/Fc chimera, generated by the proteolytic removal of the signal peptide region, is a disulfide-linked homodimeric protein. Based on N-terminal sequencing, the mature human BAFF receptor/Fc protein begins with Arg 2 and has a calculated molecular mass of approximately 34 kDa. As a result of glycosylation, the recombinant protein migrates as an approximately 40-50 kDa protein in SDS-PAGE under reducing conditions. Human and mouse BAFF receptors share 56% amino acid sequence identity.

B-cell activating factor (BAFF) is a member of the tumor necrosis factor (TNF) superfamily of ligands. BAFF promotes the survival of B cells and is necessary for B cell maturation.<sup>1-4</sup> BAFF binds to three receptors of TNF superfamily: B-cell maturation antigen (BCMA/TNFRSF17), transmembrane activator and calcium-modulator and cyclophilin ligand interactor (TACI/TNFRSF13B), and B-cell activating factor receptor (BAFF R/BR3/TNFRSF13C). These receptors are type III transmembrane proteins lacking a signal peptide. Whereas, TACI and BCMA bind BAFF and APRIL (a proliferation-inducing ligand), the BAFF receptor selectively binds BAFF.

BAFF Receptor is highly expressed in spleen, lymph node, and resting B cells. It is also expressed at lower levels in activated B cells, resting CD4<sup>+</sup> T cells, thymus, and peripheral blood leukocytes.

BAFF knockout mice lack mature B cells. Similarly, A/WySnJ mice that are defective in BAFF receptor intracellular signaling also lack mature B cells, suggesting that BAFF receptor is the critical receptor for BAFF during B lymphopoiesis. In contrast, BCMA- or TACI-deficient mice have no major defect in B cell development.

#### **Reagent**

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

#### **Storage/Stability**

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C for up to one month in the presence of a carrier protein. For prolonged storage, freeze in working aliquots. Avoid repeated freezing and thawing.

#### **Preparation Instructions**

Reconstitute the contents of the vial using 0.2 µm filtered phosphate buffered saline. Prepare a stock solution of no less than 100 µg/ml. The carrier-free protein should be used immediately upon reconstitution to avoid losses in activity due to non-specific binding to the inside surface of the vial. For long-term storage as a dilute solution, a carrier protein such as 0.1% human serum albumin or bovine serum albumin should be added to the vial.

#### **Product Profile**

Recombinant Human BAFF Receptor/Fc Chimera is measured by its ability to neutralize recombinant human BAFF-induced proliferation of mouse B cells in the presence of recombinant human BAFF.

Endotoxin: < 1.0 EU (endotoxin unit)/µg cytokine as determined by the LAL method.

## References

1. Thompson, J.S., et al., Science, **293**, 2108-2111 (2001).
2. Rolink, A.G., and Melcher, F., Curr. Opin. Immunol., **14**, 266 (2002).
3. Mackay, F., and Browning, J.L., Nature Reviews Immunology, **2**, 464 (2002).
4. Laabi, Y., et al., Currect Biol., **11**, R1013 (2001).

KAA 05/04

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.