BAFF, Soluble, Human, Recombinant Expressed in *E. coli*

**Product Number** B 6681
**Storage Temperature** −20 °C

**Synonyms:** sBAFF, B cell activating factor, BLyS, TALL-1, THANK, zTNF4

**Product Description**
Soluble BAFF is produced from a cDNA sequence encoding the extracellular domain (amino acid residues 83-285) of human BAFF that is fused by means of a six amino acid linker to a FLAG tag at the amino terminus. It is expressed in *E. coli*. The molecular weight of the fusion protein is approximately 28 kDa by SDS-PAGE under reducing conditions. Purity is greater than 95%.

BAFF is a tumor necrosis factor (TNF) family member that promotes expansion and differentiation of the B cell population. It is produced by cells of myeloid origin and is expressed either on the surface or in a soluble form. Membrane-bound BAFF is processed and secreted through the action of a protease whose specificity matches that of the furin family of proprotein convertases. Three receptors for BAFF have been identified: BCMA (B cell maturation protein), TACI (transmembrane activator and CAML-interactor) and BAFF-R. Recombinant human soluble BAFF is a tool for the detection of cells having BAFF-specific surface receptors (see Procedure). It binds to BCMA and TACI of both human and mouse origin.

Functional studies indicate that soluble BAFF costimulates B lymphocyte proliferation in vitro and administration or overexpression of soluble BAFF causes lymphocytic disorders and autoimmune manifestations in mice. Recent study shows that BAFF also plays an important role in costimulation of T cell activation while it has no effect on the survival of activated T cells.

**Preparation Instructions**
Prepare a sterile 0.1 mg/ml stock solution of human recombinant soluble BAFF in PBS by dissolving the entire vial contents (10 µg protein) in 100 µL sterile water. Further dilution should be made with cell culture medium containing 5% fetal calf serum.

**Storage/Stability**
Lyophilized human recombinant soluble BAFF is stable for at least six months at −20 °C. Store single-use aliquots of the 0.1 mg/ml stock solution at −20 °C. Avoid repeated freeze-thaw cycles. Do not store in a frost-free freezer.

**Procedure**
**Flow Cytometry (FACS) Analysis:**
BJAB cells (5 x 10^5) are incubated on ice for 30 min in 50 µl FACS buffer (phosphate buffered saline with 5% fetal calf serum and 0.02% sodium azide) containing 2 µg/ml of recombinant human soluble BAFF. After washing the cells in FACS buffer, biotinylated monoclonal antibody to FLAG is added at 2.5 µg/ml for 30 min. After washing in FACS buffer, fluorescent-tagged streptavidin is added at 2 µg/ml, and the cells are incubated for 30 min. The cells are again washed in FACS buffer and analyzed by flow cytometry.

**References**

**Reagents**
Recombinant human soluble BAFF is supplied as a powder. It is lyophilized from a solution containing phosphate-buffered saline (PBS).


7. 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 (1999).


