Recombinant Human BAFF (carrier-free)

Catalog# / Size	559608 / 500 µg 559602 / 10 µg 559604 / 25 µg 559606 / 100 µg
Regulatory Status	RUO
Other Names	B cell activating factor belonging to the TNF family (BAFF), B lymphocytes stimulator (BLyS), TNF- and APOL-related leucocyte expressed ligand 1(TALL1), TNF homolog that activates apoptosis, NKFB, JNK (THANK), TNF13B, CD257
Description	BAFF is a TNF-α cytokine member (a type II membrane protein) that acts in both a membrane-bound form and soluble cytokine form. The extracellular domain of BAFF shows high homology with APRIL. The soluble form is derived by cleavage in a furin consensus site. In human neutrophils treated with G-CSF, BAFF is processed intracellularly by a furin-type convertase. BAFF acts mainly as a soluble trimer and binds to three receptors with decreasing affinity in the following order: BAFFR > TACI > BCMA. Mice deficient in BAFF or its receptor BAFFR exhibit an obstruction in B cell development after the transitional T1 stage and lack marginal zone (MZ) and conventional B2 B cells. BAFFR-deficient mice and humans (patients with common variable immunodeficiency, or CVID) develop severe B cell lymphopenia due to the arrest of B cell development at the transitional B cell stage. Extreme BAFF production triggers severe autoimmune disorders in mice similar to Systemic Lupus Erythematosus (SLE) and Sjögren's syndrome. BAFF has been associated with different human diseases such as pancreatic ductal adenocarcinoma (PDAC), autoimmune pancreatitis, SLE, rheumatoid arthritis, Sjögren's syndrome, lymphoid cancers, HIV infection, and B cell malignancies such as non-Hodgkin's lymphoma (NHL).

Product Details

Source	Human BAFF, amino acids (Ala134-Leu285) (Accession# NM_006573), was expressed with a N-terminal 9-His tag in CHO cells.
Molecular Mass	The 173 amino acid recombinant protein has a predicted molecular mass of approximately 19.2 kD. The protein migrates at approximately 20 kD in DTT-reducing and non-reducing conditions by SDS-PAGE. The predicted N-terminal amino acid is His.
Purity	>95%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 20mM $NaHPO_4$, 300mM NaCl, 2mM DTT, 1mM EDTA, 2mM CHAPS, and in pH 6.0.
Endotoxin Level	Less than 1 EU per µg cytokine as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. **Avoid repeated freeze/thaw cycles.**
Activity	ED_{50} = 0.3 - 2.0 ng/mL, corresponding to a specific activity of 0.5 - 3.33 x 10^6 units/mg, as determined by the dose dependent stimulation of mouse B cells proliferation.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee. If you have any

concerns, contact us at tech@biolegend.com.

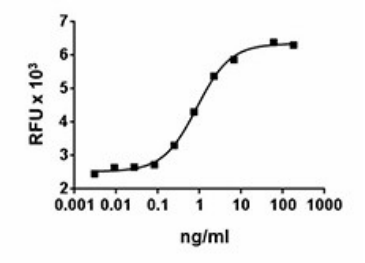
Product Citations

1. Jenks SA *et al.* 2018. Immunity. 49(4):725-739 . PubMed

Antigen Details

Structure	Cytokine.
Distribution	Monocytes, macrophages, dendritic cells, neutrophils, and stromal cells of lymphoid organs.
Function	BAFF induces B cell maturation, proliferation, survival, and immunoglobulin production. BAFF controls the size and composition of mature preimmune B cell pools. BAFF is induced by INF-γ in monocytes.
Interaction	Immature B cells, peripheral B-cells, naÃ¯ve and memory cells.
Ligand/Receptor	BAFFR, TACI (transmembrane activator and calcium-modulator and cyclophilin ligand interactor), and BCMA (B cell maturation antigen).
Bioactivity	Induces B cell proliferation.
Cell Type	Embryonic Stem Cells
Biology Area	Cell Biology, Costimulatory Molecules, Immunology, Signal Transduction, Stem Cells
Molecular Family	CD Molecules, Cytokines/Chemokines, Growth Factors, Soluble Receptors
Antigen References	1. Schneider P, *et al.* 1999. *J. Exp. Med.* 189:1747. 2. Nardelli B, *et al.* 2001. *Blood* 97:198. 3. Schiemann B, *et al.* 2001. *Science* 5537:2111. 4. Scapini P, *et al.* 2003. *J. Exp. Med.* 197:297. 5. Yeramilli VA and Knight KL. 2010. *J. Immunol.* 184:5527. 6. Scholz JL and Cancro MP. 2012. *Immunol. Lett.* 143:2. 7. Sindhava VJ, *et al.* 2013. *Front Immunol.* 4:37. 8. Koizumi M, *et al.* 2013. *PLoS One* 8(8):e71367.
Gene ID	10673

Product Data



IgM-stimulated mouse B cell proliferation induced by human BAFF.

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