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Product Information

BAFF active, human
recombinant, expressed in *Nicotiana benthamiana*

Catalog Number **B0939**
Storage Temperature –20 °C

Product Description

BAFF (B lymphocyte activating factor) is a member of the tumor necrosis factor (TNF) ligand family, which is expressed in T Cells, macrophages, monocytes, and dendritic cells. It is also known as BLyS, THANK, TALL, zTNF4, and TNFS20. BAFF enhances B cell survival *in vitro* and has emerged as a key regulator of peripheric B cells and it is a vital homeostatic cytokine for B cells that helps regulate both innate and adaptive immune responses. BAFF binds to three TNF receptors: B cell maturation antigen (BCMA/TNFRSF17), trans-membrane activator and calcium modulator and cyclophilin ligand interactor(TACI/TNFRSF13B), and BAFF receptor (BAFF R/BR3/TNFRSF 13C).The human BAFF gene codes for a 285 amino acid type II transmembrane protein.

Recombinant human soluble BAFF is a 151 amino acid protein containing the TNF-like portion of the extracellular domain of BAFF. It is lyophilized from 20 mM PBS buffer, pH 7. It is produced by transient expression of human recombinant Human B lymphocyte activating factor (BAFF) in non-transgenic plants. BAFF contains a 10-His-tag at the N-terminal end and is purified by sequential chromotography (FPLC).

This product is Xeno-free, containing no animal-derived components nor impurities.

Molecular mass: 18-20 kDa
[composed of a glycosilated polypeptide chain containing 151 amino acids, 134-285 aa Q9Y275 (TN13B_HUMAN)]

Sequence:
HHHHHHHHHHAVQGPEETVTQDCLQLIADSETPTIQK
GSYTFVPWLLSFKRGSALEEKENKILVKETGYFFIYGQ
VLYTDKTYAMGHLIQRKKVHVFGDELSLVTLFRCIQN
MPETLPNNSCYSAGIAKLEEGDELQLAIPRENAQISLD
GDVTFFGALKLL

Purity: >97% (SDS-PAGE)

ED_{50}: ≤50 ng/mL

Biological activity: The activity is determined by dose-dependeant stimulation of proliferation of B cells from Human PBMC. Cell proliferation was measured by MTT method. Activity may vary with PBMC donors.

Endotoxin: <0.4 EU per 1 μg of the protein
(LAL method)

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

The lyophilized protein should be reconstituted in water to a concentration of 25-50 ng/μL. It is recommended to add a carrier protein (0.1% HSA or BSA). Due to the protein nature, dimers and multimers may be observed.

Storage/Stability

The product ships at ambient temperature. Upon receiving, store it immediately at –20 °C or below. Upon reconstitution, aliquot and store under sterile conditions at –20 °C or below. Avoid repeated freeze/thaw cycles.

References

1. Schneider, P. et al., BAAF, a Novel Ligand of the Tumor Necrosis Factor Family, Stimulates B cell Growth. J. Exp. Med., **189**,1747-1754 (1999).
2. Mackay, J.L. and Browning. BAFF: a fundamental survival factor for B cells. Nat. Rev. Immunol., **2**, 465-475 (2002).
3. Harless Smith, S. et al. Integrating B cell homeostasis and selection with BAFF. Arch. Immunol. Ther. Exp., **51**, 209-218 (2003).
4. Wu, T.H. et al. Expression, Characterization of recombinant human Soluble Baff Secreted from CHO Cell. Molecular Biology, **43**, 76-81 (2009).

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