Revision 1

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#5233

Human BAFF/TNFSF13B (hBAFF)

Cell Signaling TECHNOLOGY®

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MW (kDa):	UniProt ID:	Entrez-Gene Id:
16	#Q9Y275	10673

Background

BAFF, a member of the TNF superfamily of proteins, is a homotrimeric transmembrane protein, which is cleaved to produce a soluble cytokine (1). BAFF may also further oligomerize into 60-mer structures (1). BAFF is expressed by neutrophils, macrophages, dendritic cells, activated T cells, and epithelial cells (1,2). BAFF plays a key role in B cell development, survival, and activation (1,3,4). BAFF binds to three distinct receptors, BAFF-R, TACI, and BCMA (1). These receptors are differentially expressed during B cell development and among B cell subsets (1,2,4). While BAFF-R and BCMA bind to the homotrimeric form of BAFF, TACI only binds to membrane bound or higher order BAFF structures (1). The BAFF/ BAFF-R interaction activates both canonical and non-canonical NF-κB pathways, PI3K/Akt, and mTOR (2,4). Activation of the noncanonical NF-κB pathway via BAFF-R is negatively regulated by TRAF3 (5). Elevated levels of BAFF may exacerbate many autoimmune disorders, making it an attractive therapeutic target (2).

Endotoxin

Less than 0.01 ng endotoxin/1 µg hBAFF.

Purity

>98% as determined by SDS-PAGE of 6 µg reduced (+) and non-reduced (-) recombinant hBAFF. All lots are greater than 98% pure.

Source / Purification

Recombinant human BAFF (hBAFF) Ala134-Leu285 (Accession #NP_006564) was expressed in human 293 cells at Cell Signaling Technology.

Bioactivity

The bioactivity of recombinant hBAFF was determined in a cell proliferation assay using mouse splenic B cells. The ED_{50} of each lot is between 0.5-2 ng/ml.

Background References

1. Mackay, F. and Schneider, P. (2009) *Nat Rev Immunol* 9, 491-502.
2. Moisini, I. and Davidson, A. (2009) *Clin Exp Immunol* 158, 155-63.
3. Schiemann, B. et al. (2001) *Science* 293, 2111-4.
4. Khan, W.N. (2009) *J Immunol* 183, 3561-7.
5. Gardam, S. et al. (2008) *Immunity* 28, 391-401.

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