

## BAFFR/TNFRSF13C Protein, Rat (HEK293, His)

Cat. No.:	HY-P76745
Synonyms:	Tumor necrosis factor receptor superfamily member 13C; BAFF-R; CD268; TNFRSF13C; BR3
Species:	Rat
Source:	HEK293
Accession:	D4A281 (S10-A71)
Gene ID:	500910
Molecular Weight:	Approximately 20 kDa

### PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

Background	<p>BAFF Receptor is expressed on all B cells (except plasma cells), including immature, transitional, mature, memory, and germinal center B cells, as well as on plasma cells<sup>[2]</sup>, while BAFF-R is also expressed on follicular helper T cells (TFH)<sup>[3]</sup>. The amino acid sequence of human BAFF Receptor protein has low homology for mouse and rat BAFF Receptor protein. BAFF Receptor binds to BAFF and recruits TNF receptor-associated factor 3 (TRAF-3) and TRAF-2 to the intracellular domain of BAFF-R molecules. The binding of TRAF3 to the BAFF-R reverses the inhibitory effect of unbound/cytoplasmic TRAF3 on the alternative NF-κB2 signaling pathway. It releases NF-κB-inducing kinase (NIK), which phosphorylates inhibitor of κB kinase 1 (IKK1) leading to activation of non-canonical NF-κB. BAFF-R signaling is critical for peripheral B cell survival and differentiation, germinal center formation, plasma cell survival, and IgG and IgE class switching<sup>[2]</sup>.</p> <p>BAFF Receptor binds to BAFF mediates B-cell survival, proliferation, and differentiation, and involves in the formation of GCs in secondary follicles in murine models and tertiary lymphoid structures in autoimmune diseases<sup>[3]</sup>. BAFF/BAFF-R signaling is crucial for primary B cell survival, differentiation and homeostasis<sup>[4]</sup>. A/WySnJ mice expressing a defective BAFF-R have disrupted B cell maturation, similar to that seen in BAFF-deficient mice<sup>[5]</sup>.</p>
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### REFERENCES

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- [1]. Rodig SJ, et al. BAFF-R, the major B cell-activating factor receptor, is expressed on most mature B cells and B-cell lymphoproliferative disorders. *Hum Pathol*. 2005 Oct;36(10):1113-9.
- [2]. Thompson N, et al. Exploring BAFF: its expression, receptors and contribution to the immunopathogenesis of Sjögren's syndrome. *Rheumatology (Oxford)*. 2016 Sep;55(9):1548-55.
- [3]. Carrillo-Ballesteros FJ, et al. B-cell activating factor receptor expression is associated with germinal center B-cell maintenance. *Exp Ther Med*. 2019 Mar;17(3):2053-2060.
- [4]. Zheng N, et al. BAFF promotes proliferation of human mesangial cells through interaction with BAFF-R. *BMC Nephrol*. 2015 May 15;16:72.
- [5]. Ng LG, et al. B cell-activating factor belonging to the TNF family (BAFF)-R is the principal BAFF receptor facilitating BAFF costimulation of circulating T and B cells. *J Immunol*. 2004 Jul 15;173(2):807-17.
- [6]. Warnatz K, et al. B-cell activating factor receptor deficiency is associated with an adult-onset antibody deficiency syndrome in humans. *Proc Natl Acad Sci U S A*. 2009 Aug 18;106(33):13945-50.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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