# Technical Data Sheet

## InVivoSIM anti-human BAFF (Belimumab Biosimilar)

**Attention: Use of this product constitutes an agreement to Bio X Cell's Terms and Conditions which are included with this product in print and can also be found at https://bioxcell.com/terms-and-conditions.**

## Lot Specific Information

**Lot Number:** **Lot Specific***
**Volume:** **Lot Specific***
**Concentration:** **Lot Specific* (generally 4 to 11 mg/ml) ***
**Total Protein:** **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

## Product Information

| | |
|---|---|
| **Catalog Number:** | **SIM0055** |
| **Clone:** | **Belimumab** |
| **Isotype:** | Human IgG1, λ |
| **Recommended Isotype Control(s):** | RecombiMAb human IgG1 isotype control, anti-hen egg lysozyme |
| **Recommended Dilution Buffer:** | InVivoPure pH 7.0 Dilution Buffer |
| **Immunogen:** | Human BAFF (BLYS) |
| **Reported Applications:** | *in vivo* functional assays<br>*in vitro* functional assays<br>Flow cytometry<br>ELISA<br>Western blot |
| **Formulation:** | PBS, pH 7.0<br>Contains no stabilizers or preservatives |
| **Endotoxin:** | ≤0.5EU/mg (≤0.0005EU/µg)<br>Determined by LAL gel clotting assay |
| **Purity:** | ≥95%<br>Determined by SDS-PAGE |
| **Sterility:** | 0.2 µm filtration |
| **Production:** | Purified from cell culture supernatant in an animal-free facility |
| **Purification:** | Protein A |
| **Aggregation:** | <5%<br>Determined by SEC |
| **RRID:** | |
| **Molecular Weight:** | 150 kDa |

## Murine Pathogen Test Results

Mouse Norovirus: Negative, Mouse Parvovirus: Negative, Mouse Minute Virus: Negative, Mouse Hepatitis Virus: Negative, Reovirus Screen: Negative, Lymphocytic Choriomeningitis virus: Negative, Lactate Dehydrogenase-Elevating Virus: Negative, Mouse Rotavirus: Negative, Theiler's Murine Encephalomyelitis: Negative, Ectromelia/Mousepox Virus: Negative, Hantavirus: Negative, Polyoma Virus: Negative, Mouse Adenovirus: Negative, Sendai Virus: Negative, Mycoplasma Pulmonis: Negative, Pneumonia Virus of Mice: Negative, Mouse Cytomegalovirus: Negative, K Virus: Negative

## Description

This non-therapeutic biosimilar antibody uses the same variable regions as the therapeutic antibody, Belimumab, making it ideal for research use. Belimumab is a humanized IgG1 lambda recombinant monoclonal antibody that reacts with B-cell activating factor (BAFF), also known as B lymphocyte stimulator (BLyS) or TNFSF13B. BAFF is a cytokine that belongs to the TNF ligand family and is expressed by monocytes, macrophages, dendritic cells, and lymphoid cells, including B cells and activated T cells. BAFF exists as a cell surface type II transmembrane protein and a cleaved soluble form. BAFF

interacts with three distinct receptors: B-cell maturation antigen (BCMA, also known as TNFRSF17), transmembrane activator and calcium-modulator and cyclophilin ligand interactor (TACI, also known as TNFRSF13B), and BAFF receptor (BAFF-R or BR3). BAFF's expression is upregulated by IFNγ and IFNα (on monocytes and dendritic cells), and IL-10 is known to stimulate BAFF secretion by macrophages. BAFF shares amino acids and functional similarities with TNFSF13/APRIL, which also binds to TACI and BCMA receptors, but not with BR3. BAFF is involved in the stimulation of B-cell and T-cell function and the regulation of humoral immunity. BAFF promotes the survival of immature, naive, and activated B cells. Importantly, BAFF facilitates the differentiation of B cells into plasma cells. BAFF is a B cell survival factor, and its expression is often elevated in immunodeficient and autoimmune disorders, such as systemic lupus erythematosus (SLE). In experimental studies, belimumab is documented to inhibit the survival of B cells through blockade of BAFF interaction with TACI, BCMA, and BR3. The critical role of BAFF in the development of systemic lupus erythematosus (SLE) forms the basis for SLE immunotherapy with BAFF-blocking antibodies, such as belimumab.

## Storage

Store at the stock concentration at 4°C . **Do not freeze.**
It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

## Protocol Information

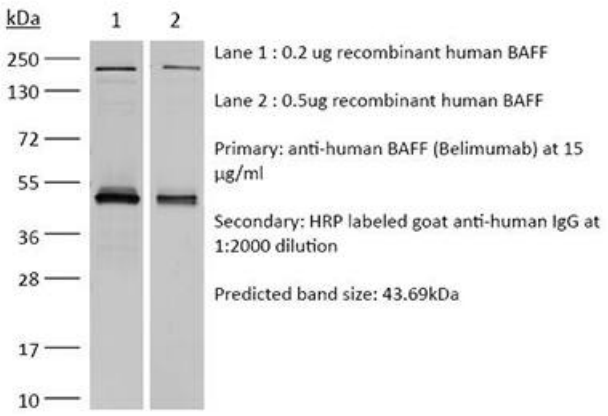
Since applications vary, each investigator should use the application references as a guide to help estimate the appropriate dose or concentration. The dose or concentration can be further optimized experimentally in a dose response or titration experiment.

## Application References

For a complete list of references, visit https://bioxcell.com/sim0055?bxcs=9k1b3a#tab_references or scan the QR code below.

## Binding Validation

Validation data shown below confirms that this clone binds to its target antigen. For lot specific binding validation data, e-mail technicalservice@bioxcell.com.




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